

1                   IN THE UNITED STATES DISTRICT COURT  
2                   FOR THE EASTERN DISTRICT OF TEXAS  
2                   TYLER DIVISION

3                   ERICSSON, INC., ET AL                   )  
4   DOCKET NO. 6:10cv473  
4                   -vs-   )  
5   Tyler, Texas  
5   )  
6                   D-LINK CORPORATION, ET AL                   1:50 p.m.  
6   June 12, 2013

7

8                   TRANSCRIPT OF TRIAL  
9                   AFTERNOON SESSION  
9                   JURY NOTES AND BENCH TRIAL  
10                  BEFORE THE HONORABLE LEONARD DAVIS,  
10                  UNITED STATES CHIEF DISTRICT JUDGE, AND A JURY

11                  A P P E A R A N C E S  
12

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25

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1 P R O C E E D I N G S

2 (Jury out.)

3 COURT SECURITY OFFICER: All rise.

4 THE COURT: Please be seated.

5 All right. We have a Jury Note No. 1

6 that reads: Can we see a copy of Plaintiff's Exhibit

7 208-D, Intel source code regarding MAC and LLC header?

8 Signed by the Jury Foreperson, Donna Mangrum.

9 Is that in their group that's been  
10 introduced? Was that introduced, Ms. Ferguson?

11 COURTROOM DEPUTY: It's 208 what?

12 THE COURT: D.

13 COURTROOM DEPUTY: Yes. A through K was  
14 introduced.

15 THE COURT: So that should be in there.

16 MR. CAWLEY: Should be.

17 MR. CAMPBELL: Should be.

18 THE COURT: Are they arranged by exhibit  
19 number and everything?

20 MR. CAWLEY: Our copy of it does.

21 THE COURT: Let me see that.

22 MR. VAN NEST: Are we sure? The D  
23 letter, does that mean it's a demonstrative?

24 MR. CAMPBELL: No. It was source code.

25 MR. CAWLEY: It's right here.

3 Let me have the note for Ms. Ferguson,  
4 please.

5 Did Defendant have a chance to see this?

6 MR. VAN NEST: No.

7 THE COURT: Please take a look at that.

8 Ms. Ferguson, if you would --

9 Ms. Ferguson, if you would hand that to -- let them take  
10 a look at that.

14 THE COURT: Just that notation about how  
15 to answer Question No. 1.

16 [Laughter]

17 MR. VAN NEST: That must have been some  
18 conference call you had.

19 MR. STEVENSON: This is the one I did at  
20 the podium, which, I guess, turned it into a  
21 demonstrative; but it's the one I notated while I was --

22 MR. VAN NEST: Can we --

23 THE COURT: Yeah.

24 MR. VAN NEST: Can we get a clean copy?

25 THE COURT: We need one with -- just like

1 they have. Do you have an unmarked --

2 MR. STEVENSON: I have a limited supply.

3 I know I produced one that is the copy that was in  
4 evidence, and I produced one to the Defendant that I  
5 also didn't get back, and I think that exhausted my --

6 MR. VAN NEST: I have mine, but it's  
7 across the street at our trial site, but I can get it  
8 here in just a few minutes.

9 COURTROOM DEPUTY: Judge, they should  
10 have it in there.

11 THE COURT: Let me have another note.

12 COURTROOM DEPUTY: We can go look.

13 THE COURT: All right.

14 All right. I'm just going to send this  
15 note in: You should have Plaintiffs' Exhibit 208-D in  
16 your exhibit box.

17 But if there is no objection, I will have  
18 Ms. Ferguson send the note in and see if she can help  
19 them locate it.

20 Is there any problem with that?

21 MR. VAN NEST: No problem, Your Honor.

22 MR. CAMPBELL: No problem.

23 THE COURT: All right, Ms. Ferguson.

24 Here is the note and -- and if they can't -- if for some  
25 reason it's not there, come back and let me know, and we

1 will get them another copy.

2 Be in recess.

3 COURT SECURITY OFFICER: All rise.

4 (Jury deliberations continue.)

5 COURT SECURITY OFFICER: All rise.

6 THE COURT: Please be seated.

7 All right. I understand everybody

8 finally found a copy of 280-D, and we've sent that in  
9 with a note to the jury apologizing for taking so long;  
10 so, they have that now.

11 And I believe both sides had reviewed  
12 that, had you not?

13 MR. VAN NEST: Yes, we have Your Honor.

14 MR. STEVENSON: Yes, Your Honor.

15 THE COURT: Okay. All right. Who will  
16 be your first witness?

17 MR. DAUCHOT: Dr. Shoemake, Your Honor.

18 MR. DE VRIES: And, Your Honor,  
19 Defendants also have a list of agreed upon pre-admitted  
20 exhibits for the bench trial. With Your Honor's  
21 permission, I'd like to hand that up.

22 THE COURT: All right. All right. And  
23 what is that labeled?

24 MR. DE VRIES: It's Defendants' List of  
25 Pre-admitted Exhibits for June 12th, 2013, Bench Trial.

1                   THE COURT: Okay. Proposed pre-admitted?

2                   MR. DE VRIES: That's correct.

3                   THE COURT: Okay. I'm about to admit  
4 them.

5                   All right. Any objection?

6                   MS. MOORE: No, Your Honor.

7                   THE COURT: All right. The exhibits on  
8 Plaintiffs' proposed exhibits for bench trial which  
9 we'll mark as Defendants -- I'm sorry Defendants'  
10 Exhibit list, we'll mark as Defendants' Exhibit No. 7 --  
11 Exhibit List No. 7, and there being no objection, those  
12 exhibits are admitted for the bench trial only.

13                   All right. Plaintiffs have a similar  
14 list?

15                   MS. MOORE: Yes, Your Honor. It's titled  
16 Plaintiff's Pre-admitted Exhibit List for the June 12th,  
17 2013, Bench Trial.

18                   THE COURT: Okay. We'll mark that as  
19 Plaintiffs' Exhibit List No. 7.

20                   And any objection to those exhibits?

21                   MR. DE VRIES: No, Your Honor.

22                   THE COURT: All right. They will be  
23 admitted for the bench trial only.

24                   All right. You may proceed, Counsel.

25                   MR. DE VRIES: Thank you, Your Honor.

1 MATTHEW SHOEMAKE, Ph.D., DEFENDANTS' WITNESS,

2 PREVIOUSLY SWORN

3 DIRECT EXAMINATION

4 BY MR. DE VRIES:

5 Q. Good afternoon, sir.

6 A. Good afternoon.

7 Q. Would you please introduce yourself.

8 A. I'd be happy to. My name is Matthew Shoemake.

9 Q. Dr. Shoemake, please tell us about your  
10 background.

11 A. I'd be happy to. I am currently the CEO of  
12 Biscotti, Inc., in McKinney, Texas. I'm originally from  
13 the Texas area. And my educational background is,  
14 undergrad, I went to Texas A&M University in College  
15 Station, Texas. I received -- I double majored there in  
16 electrical engineering and computer science. I  
17 graduated with honors.

18 And after that, I went to Cornell University  
19 in Upstate New York and studied electrical engineering  
20 there, as well, and received a Master's degree and a  
21 Doctorate degree.

22 Q. Dr. Shoemake, have you been involved in the  
23 802.11 standards development process?

24 A. I have.

25 Q. In -- in what way?

1       A.    Well, I was involved early on. I got involved  
2 in 802.11 in late 1997, 1998. I was involved in the  
3 802.11a and "b" standards development activities.

4           I was also elected as the chairman of 802.11g,  
5 so I was the chairman of 802.11g from 2000 to 2003, and  
6 I was the first chairman of the 802.11n as well.

7       Q.    Dr. Shoemake, have you had any experience  
8 working on 802.11 products?

9       A.    I have.

10           THE COURT: Counsel, let me just stop you  
11 for a moment and inquire if Dr. Shoemake has been sworn.

12           MR. DE VRIES: I do not believe so, Your  
13 Honor.

14           THE COURT: All right. If you would  
15 raise your right hand to be sworn, please.

16                   (Witness sworn.)

17           THE COURT: Was everything you just  
18 testified to true?

19           THE WITNESS: It was. And, Your Honor, I  
20 was sworn in on Monday as well.

21           THE COURT: Oh, you were?

22           THE WITNESS: I'm sorry.

23           THE COURT: You're doubly sworn.

24           THE WITNESS: Sorry.

25           THE COURT: All right. You may proceed.

1 MR. DE VRIES: Thank you, Your Honor.

2 Q. (By Mr. De Vries) Now, Dr. Shoemake, I had  
3 asked you if you had experience working with 802.11  
4 products?

5 A. Yes, I have.

6 Q. And what experience is that?

7 A. Well, I got involved in 802.11 products in  
8 1997, and then in 1998, I joined a startup company in  
9 California. It's actually in the San Francisco Bay  
10 area. It was named Alantro Communications, and we built  
11 802.11 products there.

12 That company was -- in 2000 was acquired by  
13 Texas Instruments, and I actually moved back to Texas  
14 then. And inside Texas Instruments' R&D center in  
15 Dallas, I ran a branch of their R&D center that  
16 specifically focused on wireless LAN or 802.11 Wi-Fi  
17 technology, and led a team of engineers there.

18 Q. And what type of 802.11 products did you work  
19 on at Alantro in TI?

20 A. Well, semiconductor chips specifically. So  
21 semiconductors compliant with the 802.11 standard.

22 Q. Now, your work at Biscotti, does that involve  
23 802.11 in any way?

24 A. Well, it does. At Biscotti, we don't build  
25 the chips, we build an end-consumer product, a video

1 calling camera. But we have two generations of  
2 products. They both include Wi-Fi technology.

3                   The first generation includes 802.11g  
4 technology, and the current or second generation  
5 includes 802.11n technology.

6                   Q. Now, Dr. Shoemake, I'd like to ask you about  
7 your time working in the 802.11 standards development  
8 process, including when you had leadership positions in  
9 that process.

10                  What goals, if any, did the IEEE have in  
11 developing 802.11?

12                  A. Well, we had several goals. One of the  
13 biggest goals was interoperability. In fact -- by the  
14 way, I have some slides on this. The -- and they're  
15 shown here.

16                  One of the biggest goals was interoperability.  
17 One of the things that we -- we could not do  
18 unilaterally as companies was -- was -- to have  
19 interoperability, so we needed to come together in a  
20 standards body and work together to set a standard so we  
21 could have interoperability.

22                  And by interoperability, you can see on this  
23 slide I mean being able to take your Wi-Fi and it -- it  
24 work in your home and in the office and in a restaurant  
25 and a hotel.

1                   Another one that was very important for us,  
2 it's shown as No. 2 on the slide, is to make sure we had  
3 enabled a solution that was -- that was very low cost.

4                   And this was important to us so the technology  
5 could go into -- to a lot of places and a lot of  
6 different types of devices.

7                   And related to that I have here No. -- No. 3,  
8 which is broad market accessibility, and that means  
9 we -- not only did we want the technology -- I show a  
10 blow-up here -- not only did we want the technology to  
11 go -- be able to be used around the world, we also  
12 wanted it to be used in a lot of different types of  
13 devices.

14               Q. Now, Dr. Shoemake, in your experience, are  
15 there any patents that are related to the 802.11  
16 standards?

17               A. Oh, there are. I mean, in fact, I -- I'm  
18 inventor on patents that are essential to 802.11.

19               Q. And how does that fact relate to the IEEE's  
20 goal of broad accessibility in terms of 802.11?

21               A. Well, it's -- it's potentially an issue for  
22 us, because what we want to do is we want to come  
23 together, enable a standard, select technology, and then  
24 enable these goals that -- that I talked about; but  
25 standards can -- I'm sorry -- patents can be a barrier

1 because a patent is a right to prohibit someone from --  
2 from manufacturing or selling. So it actually is an  
3 issue for us.

4 Q. And how, if at all, did the IEEE address that  
5 issue?

6 A. Well, the IEEE has been addressing this for a  
7 long time, even before I -- I was involved. There's an  
8 IEEE patent policy and all members, it creates a duty  
9 for members to -- I have a slide on this as well. So it  
10 creates a duty on members to -- to abide by certain  
11 rules.

12 Q. And in general, what do those rules say?

13 A. Well, you can see in the slide here, on the  
14 bottom left side is actually the front cover of the IEEE  
15 Standards Association Patent Policy. And I've  
16 highlighted one thing here.

17 One of the things it does on -- and this is  
18 communicated regularly to members at meetings -- is that  
19 there is a -- a duty to -- to provide assurances, and we  
20 do this, you can see here, through your request, letters  
21 of assurance.

22 We have a -- on approved letter assurance  
23 form. And what that letter of assurance or promise does  
24 is it -- it requires members to license to an unlimited  
25 number of people that would like access to the patents

1 on reasonable and non-discriminatory terms.

2 Q. In the document that your slide refers to as  
3 DX 550 -- is that right?

4 A. That's correct.

5 Q. Now, can you please explain to us, Dr.

6 Shoemake, what a letter of assurance is?

7 A. Sure. And I have some examples in here as  
8 well.

9 But a letter of assurance is -- is basically a  
10 promise, it's an agreement, and the IEEE has a standard  
11 form for this. It makes it very easy. The IEEE is a  
12 very -- has a very open process, and -- and it's part of  
13 our open process.

14 We have a form that allows members and  
15 participants, and even people that don't participant, to  
16 easily comply with the policy. It allows the -- the --  
17 the entity that -- that may have a patent or wants to  
18 provide an assurance, to list who they are and to -- and  
19 to actually officially state their assurance.

20 Q. Now, can a letter of assurance be revoked?

21 A. Oh, no, it cannot. In fact, in the IEEE  
22 Standards Association Bylaws, Section 6, this is  
23 specifically addressed; and it specifically states that,  
24 hey, a letter of assurance is irrevocable during the  
25 period that the standard is active.

1           Q.    Now, I'd like to ask you about Ericsson in  
2 particular.

3                 Did Ericsson submit a letter of assurance for  
4 802.11?

5           A.    They did, and I have it in my slide deck here  
6 I believe.

7                 Yes, this is it.

8           Q.    Okay. Now, what, if anything, did Ericsson  
9 promise to do in its letter of assurance for 802.11  
10 which has been marked as DX 19?

11          A.    Sure. So, again, you can see on the left side  
12 here is actually the letter of assurance. It's smaller  
13 than what I've done, as I made some things larger so you  
14 can see them. So you can see that this is a -- a letter  
15 from Ericsson and you can see it release to 802.11n.

16                 The answer to your question is actually on the  
17 second slide, so maybe we can go to that. This  
18 addresses your question which is what -- what was  
19 promised.

20                 And so you can see that -- you can see that  
21 Ericsson selected a few things here. They selected  
22 Item 1 and they also selected sub-item b, and sub-item  
23 b, I think, addresses your question.

24                 So they -- they promised that they would grant  
25 licenses at -- at reasonable rates, and I've underlined,

1 too, an unrestricted number of applicants, and also on  
2 reasonable terms that are demonstrably free of unfair  
3 discrimination.

4 Q. Now I'd like to ask you about Ericsson's  
5 promise that you just referred to. Is that standard  
6 language from the IEEE?

7 A. It is. This is a standard form from the IEEE.

8 Q. Now, anywhere in Ericsson's letter of  
9 assurance for 802.11n did Ericsson say that it was not  
10 going to provide a license to chip makers?

11 A. No, they did not.

12 Q. Okay. And how would have -- how would the  
13 IEEE have reacted if Ericsson, in its letter of  
14 assurance, had said it was going to provide a license to  
15 its patent to an unrestricted number of applicants  
16 except for chip makers?

17 A. Well, I think that would have been met with a  
18 quite negative response. I think that it's very likely  
19 that the -- the letter would have been rejected and  
20 certainly the membership, the voting members of 802.11  
21 would have resisted that. I actually think it would  
22 have brought 802.11 standards development to a halt  
23 until the issue was resolved.

24 Q. And why do you believe that, Dr. Shoemake?

25 A. Well, because you have to understand chip

1 makers are a main contributor to 802.11 development.

2 802.11 technology ends up in the chips and  
3 they make significant contributions. They submit  
4 letters of assurance themselves, expecting to be able to  
5 participate in this agreement, this overall philosophy  
6 and -- and this policy, the IEEE's policy.

7 And the -- the thought that they would  
8 contribute to the standard in their IP and submit their  
9 letters and not be able to participate in that is -- is  
10 something that they would have objected to.

11 Q. Is this an issue that you ever experienced  
12 while working on 802.11 chips yourself during the  
13 standards development process?

14 A. Yes.

15 Q. Please share with us.

16 A. Well, I can give you one example. I mentioned  
17 before that I worked for Alantro Communications, a  
18 startup company in California, and I participated in the  
19 development of 802.11b and 802.11a and, in fact, have  
20 technology in 802.11b.

21 And again, IEEE is an open, consensus-based  
22 organization; and there was a point in time where we got  
23 over the 75 percent threshold, which was an important  
24 phase. And after that meeting, I went back to Alantro  
25 and had a discussion with our president, Eric Rossin,

1 and he was specifically asking about the intellectual  
2 property agreements and the RAND statements, and -- and  
3 I reported back to him that we, as Alantro, would be  
4 able to depend on those RAND statements that had been  
5 submitted by other members.

6 Q. And Alantro was a -- was a Wi-Fi chip maker at  
7 the time; is that correct?

8 A. That's correct.

9 Q. Is there any question in your mind, Dr.  
10 Shoemake, that when Ericsson submitted a letter of  
11 assurance to 802.11n promising to license its patents to  
12 an unrestricted number of applicants, is there any  
13 question that that promise to license also extended to  
14 chip makers?

15 A. There's no question in my mind.

16 Q. Now I'd like to briefly ask you about a couple  
17 of more things.

18 Do you understand that Ericsson has said that  
19 it's asking for a rate in -- of 50 cents in this case?

20 A. I do.

21 Q. I'd like to ask you about your experience in  
22 the 802.11 standards development process that, in terms  
23 of cost and performance in those tradeoffs, would you  
24 please share with us your experience with respect to  
25 that issue?

1       A. Well, I'd be happy to. I brought two, if not  
2 three, examples and I have some slides on this topic as  
3 well.

4           So in -- in general, we had a lot of decisions  
5 and options to -- to choose between at -- at -- at key  
6 stages of standard development. And remember, we had 50  
7 to a 100, sometimes 200 engineers in the room with --  
8 with a lot of ideas, and so the -- the trick for us was  
9 deciding what we were going to select, not coming up  
10 with options.

11           And so this example that I have on the screen  
12 right now is an example related to 802.11b. 802.11b  
13 started off with something like five or six proposals  
14 and got down to a few. One of them was a higher  
15 performance option named PBCC, but it was going to cost  
16 a bit more and -- and then there was one named CCK and  
17 it was lower performance, but it was lower complexity  
18 and thus lower cost.

19           And even though the cost difference was -- was  
20 small, the body decided to make CCK mandatory and went  
21 down that path.

22       Q. And so the 802.11 made the CCK option  
23 mandatory and the PBCC option optional; is that right?

24       A. That -- that's accurate.

25       Q. And what is your best estimate of the

1 difference in cost between those two approaches?

2 A. Well, that was actually discussed in the  
3 development process and -- and various estimates were  
4 made. There were estimates of 50,000 gates, and I  
5 remember estimates of 40 to 80,000 gates. By the way, a  
6 gate you can think of as a -- as a -- as a device that's  
7 down on the chip that does computations. And so we as  
8 engineers would measure the complexity in gates.

9 And so the estimate at the time was that --  
10 that 50,000 gates may have been a cost to add one -- one  
11 to two cents, in that ballpark.

12 Q. Are you familiar, Dr. Shoemake, with  
13 circumstances in which the IEEE 802.11 standards body  
14 considered the cost of proposed -- proposed patent  
15 licenses?

16 A. I am. I mentioned that I had a few examples.  
17 I have some examples on the next slide as well. Two  
18 examples. I'd be happy to go through them.

19 Q. Please do.

20 A. The first example is from the 1994/1995 time  
21 frame, so this is actually with the original 802.11  
22 standard before even 802.11a and "b" were ratified.

23 There was a professor, a Dr. Feher, he was a  
24 professor at the University of California-Davis, and he  
25 came to 802.11 and proposed some technology, and he told

1 the body that the -- the license fee would be 10 cents  
2 per unit if he decided -- if the body decided to adopt  
3 that technology.

4 And at that rate, the body actually decided  
5 not to adopt the technology into the standard.

6 The -- the second example I have up here is in  
7 a -- in a different time frame again, in the 802.11a  
8 time frame. So this is 1997 to 1999. Lucent proposed  
9 some technology into the 802.11a standard, and they  
10 suggested that their royalty rate would be 5 percent of  
11 the end cost of the product.

12 And just to be clear, 5 percent of the end  
13 cost, like the notebook computer and access point,  
14 rather than the cost of a component like the Wi-Fi chip  
15 where the technology is -- and in this example the  
16 members of 802.11 pushed back again and the result was  
17 that Lucent clarified its position, changed its position  
18 to say that any royalty would be attached to -- at the  
19 component or chip level rather than at the end product  
20 level.

21 Q. Now, how do the items that you just mentioned  
22 where 802.11 was considering the cost of the technology  
23 or patent impact, if at all, your beliefs about what it  
24 means for a rate to be reasonable under a letter of  
25 assurance?

1       A. Well, it informs a lot of things. I have an  
2 opinion that necessarily a reasonable rate is a small  
3 number of cents, if not smaller. And it -- and also an  
4 opinion that the -- the rate should be attached kind of  
5 on the least common denominator where the -- where the  
6 technology is and these, I think, support that opinion  
7 in showing how the -- how the members behaved and how  
8 they looked at this as well.

9       Q. What is your belief, if any, about how the  
10 IEEE would have reacted if Ericsson had said at the time  
11 of standard adoption that it was going to charge 50  
12 cents for its patents for the claims to be in the  
13 standard?

14       A. I have some slides on this topic as well.  
15 It's my opinion that they absolutely would have gone  
16 down an alternative path; and that 50 cents would not  
17 have been acceptable.

18       Q. Okay. I would like to ask you about two more  
19 items. First, how many different technologies are  
20 included in 802.11, roughly?

21       A. Well, I think conservatively hundreds, more  
22 likely thousands.

23       Q. Okay. Do you have an opinion about the  
24 percent of a Wi-Fi chip that is -- that is described by  
25 or mandated by 802.11?

1       A. I do. I spent a significant amount of time  
2 developing these chips, and I have a slide related to  
3 this topic. I'd be happy to go through it for you.

4       Q. Please do.

5       A. Well, if -- if you look inside, for example, a  
6 typical product such as a notebook computer, you'll find  
7 a small card. That's the green card down at the -- the  
8 bottom.

9           You will find a chip, sometimes chips, but in  
10 this case I showed a single chip, that includes the  
11 technology that really implements 802.11 or Wi-Fi.  
12 There are a lot of technologies in that.

13           Just to point out, you can see I called out  
14 there input/outputs on the bottom. These tend to be  
15 connectors to allow the -- the chip to connect with the  
16 rest of the device it's in, such as a notebook computer.

17           Inside the chip there's semiconductor  
18 technology, and that semiconductor technology will  
19 have -- is implemented on what's called a die, there's a  
20 die, and it has different functions in it.

21           So, for example, there will be interface logic  
22 that is -- that allows the chip to communicate with  
23 the -- with the rest of the system. There will be  
24 memory. There also would be a radiofrequency or analog  
25 section that I've shown on the -- on the top.

1                   And then there would be a portion of the chip  
2 that relates to the -- that is actually specified by the  
3 802.11 standard, and I've shown that here in blue.

4           Q.    And what amount, if any, do you believe that  
5 the portion that's specified by 802.11 -- and I'm  
6 talking about the portion of the Wi-Fi chip, what  
7 portion do you believe that to be?

8           A.    Well, based on my experience, it's typically  
9 about 35 percent of the chip, about a third of the chip.

10          Q.    Now, is all of that 802.11 portion of the chip  
11 802.11n?

12          A.    Oh, no, it's not. 802.11 has been developed  
13 over about 23 years now, and 802.11n is just -- just a  
14 portion of that.

15          Q.    And what portion of the 802.11 aspect of the  
16 Wi-Fi chip do you believe is related to 802.11n?

17          A.    Well, I've looked at that and I looked at  
18 different factors and different metrics and -- and I  
19 think conservatively it's easy to say that less than  
20 half of the 802.11 specification relates to 802.11n.

21          Q.    And that also is your estimate of the portion  
22 of the 802.11 aspect of the chip that relates to  
23 802.11n.

24          A.    Well, I've looked at different metrics. I've  
25 looked at everything from -- the answer to your question

1 is yes, and I -- and I've looked at the -- the area and  
2 technology and even things like page count. They all  
3 indicate that it's well less than 50 percent.

4 Q. Now, Dr. Shoemake, have you analyzed how many  
5 patents are related to the 802.11n standard?

6 A. I have.

7 Q. What sources of information did you consider  
8 in conducting that analysis?

9 A. Well, I have some slides on this topic as  
10 well. Maybe we can go to them.

11 So I looked at market reports. There's some  
12 third-party market reports that -- that I looked at. I  
13 also did an independent search myself and even looked at  
14 802.11n contributions as well.

15 Q. What market reports did you look at?

16 A. I looked at a couple of market reports. One  
17 of them is known as the Sunlight report and there's  
18 another one known as TechIPm.

19 Q. For the record, the Sunlight report is at DX  
20 157 through 159, and DX 162 to 164; the TechIPm report  
21 is at DX 149.

22 How, if at all, did you analyze those  
23 reports, Dr. Shoemake?

24 A. Well, with respect to the Sunlight report, the  
25 Sunlight report you can see here listed over 4,000

1   patents related to 802.11n; but since it was done by a  
2   third party, I wanted to verify that. So what I did  
3   was, I went myself through and chose patents randomly.  
4   I -- and analyzed them.

5               I was able to analyze 128 of them, and -- and  
6   to determine if I thought they were related to 802.11n.

7               I determined that about 85 percent of them  
8   that I -- that I looked at were actually related to  
9   802.11n, so I think that's about thirty -- 3400.

10              And based on my -- my sampling, I think I  
11   calculated a confidence interval of about plus or minus  
12   8 percent.

13              Q.   Now, let me ask you about the independent  
14   search that you performed. Please describe that.

15              A.   Well, what I did with the independent search  
16   is I wanted to kind of start from the beginning and --  
17   and myself and -- and come to my own conclusions. So,  
18   with the independent search, I formed search strings.

19              And maybe I can back up.

20              The U.S. Patent & Trademark Office has a  
21   website. The website allows you to input search strings  
22   to look for patents. And they have an advance search  
23   which allows you to put in more complex criteria for  
24   doing searches. And so I used their -- their website,  
25   and I constructed search sequences that -- that in my

1 experience and in my expertise would help me find  
2 patents related to -- to 802.11.

3                   And then I did the search and then I looked at  
4 the patents and then I iterated and updated my -- my  
5 search string to try to increase the accuracy.

6                   Q. Based on all the sources that you looked at,  
7 what opinion do you have about the number of 802.11n  
8 related patents?

9                   A. Well, based on -- on my analysis and  
10 everything I looked at, I -- I think it's -- it's safe  
11 to say that there are over 3000 patents that -- that  
12 relate to 802.11n.

13                   Q. Thank you, Dr. Shoemake.

14                   MR. DE VRIES: I pass the witness.

15                   THE COURT: All right. Cross-exam.

16                   CROSS-EXAMINATION

17 BY MR. CAWLEY:

18                   Q. Good afternoon, Dr. Shoemake. The draft 2.0  
19 of the 802.11n standard was approved in 2007; is that  
20 right?

21                   A. I believe that's correct.

22                   Q. And then finalized in 2009?

23                   A. Yes. Ratified in 2009.

24                   Q. Okay. But it's true, isn't it, that you  
25 stopped attending 802.11 meetings in 2004?

1 A. That's correct.

2 Q. And it's also true that your company that  
3 you're with now, Biscotti, doesn't have anyone that goes  
4 to the 802.11 meetings?

5 A. That's accurate.

6 Q. Now, when members of a 802.11 meeting group  
7 decide what to put into the standard, they may be aware  
8 that what they put in is patented, true?

9 A. Could you repeat the question?

10 Q. Yes, sir.

11 When members of an 802.11 meeting group decide  
12 what to put into the standard, they may be aware what  
13 they put in is patented?

14 A. There might be awareness.

15 Q. Okay. And, in fact, I know the time is short  
16 here, and we all want to move along. You showed us a  
17 document earlier, DX 550. You remember that? It's  
18 the -- it's the first textual page of the patent policy?

19 A. Yes.

20 Q. If I told you that that very first line of the  
21 patent policy cautions people that the standard may  
22 include essential patent claims, you wouldn't disagree  
23 with that, would you?

24 A. I would not.

25 Q. Now, you just testified that you undertook a

1 study and did some research to determine how many  
2 patents relate to the 802.11 standard, correct?

3 A. That's correct.

4 Q. And you concluded that thousands of patents  
5 relate to the standard, right?

6 A. That's correct.

7 Q. Did you try to determine how many patents are  
8 essential to the standard?

9 A. That's a much more difficult task. I did not.

10 Q. You did not do that. Okay.

11 Now, let's also -- I'd like to put in context  
12 just briefly the RAND obligation that you've testified  
13 about.

14 Now, the IEEE is not a governmental or a quasi  
15 governmental body, is it?

16 A. It's not. It's a U.S. not-for-profit  
17 organization.

18 Q. Okay. It doesn't have the ability to make  
19 laws, for example?

20 A. Not that I'm aware of.

21 Q. It doesn't have the ability to take people's  
22 property without their permission?

23 A. I don't think it does.

24 Q. So, the IEEE relies on agreements to comply  
25 with RAND terms. Would you agree?

1       A.    Yes, I would agree with that.

2       Q.    And you agree that a party, such as Ericsson,  
3 could limit the commitment that it makes?

4       A.    In -- potentially in -- in certain ways.

5       Q.    Well, for example, could a party participating  
6 in the IEEE making a declaration of essential patent  
7 claims to the IEEE say, I'm going to make the letter of  
8 assurance applicable to certain patents but not others?

9       A.    Well, I think the -- the IEEE right now, that  
10 would probably be difficult to do because the letter of  
11 assurance gives you a couple of options, and it sounded  
12 like that would be selecting two options, right? One  
13 to -- to not license and one to license, if I understood  
14 your -- your question correctly.

15       Q.    Well, what's to stop a company from going to  
16 the IEEE and saying: You know what, I've got two  
17 patents and I'm going to give you a letter of assurance  
18 applicable to Patent No. 1, but I'm not giving you any  
19 assurance about Patent No. 2?

20       A.    They could do that. It might require  
21 submitting two letters of assurance, one saying no and  
22 one saying yes.

23       Q.    Okay.

24       A.    But -- but it could potentially be done.

25       Q.    So they could limit their commitment in that

1 way. You agree?

2 A. Well, again, it would depend on -- I guess I'd  
3 have to see the exact example. But there's some things  
4 that the IEEE won't agree to such as letters being put  
5 in that -- that exclude parties or discriminatory but --

6 Q. Well, but we're not looking to the IEEE to  
7 agree, are we? We're looking to the extent to which the  
8 owner of the patent is willing to limit their patent  
9 rights by making an agreement, correct?

10 A. That -- that may be a question of law.

11 Q. Okay. That's fair enough.

12 But on the same subject, you do agree, for  
13 example, that a company like Ericsson could insist on  
14 reciprocity as a condition of licensing?

15 A. With respect to the standard letter at this  
16 time, I -- it's my understanding the IEEE does not allow  
17 that to be modified.

18 I do know that at a point in the past they  
19 would allow that, and I think you can actually find  
20 letters that -- that have that.

21 But with respect to the -- the current letters  
22 of assurance, such as the one that Ericsson -- Ericsson  
23 signed, I believe the IEEE encourages you to use that --  
24 that exact form.

25 Q. Okay. But just to move this along, you

1 remember when I asked you -- or I didn't ask you --  
2 someone asked you that question in your deposition if --  
3 if a patent holder could insist on reciprocity as a  
4 condition of licensing, and you agreed that they could,  
5 didn't you?

6 A. The -- I don't think that the IEEE, at least  
7 historically, has rejected letters based -- based on  
8 that.

9 Q. You don't think they historically have  
10 rejected letters?

11 A. I'm sorry. I used a double negative. I  
12 apologize. The -- the letters have been accepted  
13 with -- with that -- with that condition.

14 Q. Okay. Good.

15 So, in that sense, that commitment would be  
16 defined by what the patent owner is willing to commit  
17 to?

18 A. I'm sorry. I didn't follow your question.

19 Could you restate it?

20 Q. Yes, sir. If the patent owner wants to  
21 qualify or limit its letter of assurance to require  
22 reciprocity, you've said that -- that that's happened in  
23 the past?

24 A. It has happened in the past, that's correct.

25 Q. Now, you -- you told us about the letter of

1 assurance that Ericsson sent at the request of the IEEE  
2 in 2011. You remember that testimony?

3 A. Yes. I think you're talking about the -- the  
4 April letter, yes.

5 Q. Yes, sir. But that was a second letter of  
6 assurance that Ericsson had sent to the IEEE, wasn't it?

7 A. It was.

8 Q. They sent an earlier one in 2003, correct?

9 A. That's correct.

10 Q. And in that letter, they appended a statement  
11 limiting or at least qualifying the scope of their  
12 commitment, didn't they?

13 A. They -- they certainly attached a -- a letter.  
14 I'm not sure the -- the degree to which they -- they  
15 qualified or limited it.

16 Q. Okay. But we've seen that exhibit already. I  
17 won't take the time to pull it up now. But -- but you  
18 recognize that Ericsson, in addition to filling out the  
19 IEEE form, in that first letter of assurance had some  
20 other things to say about what they were committing to?

21 A. I agree with that in their 2000 letter, yes.

22 Q. All right, sir. And you also agree that it's  
23 the position of the IEEE that they may continue to rely  
24 on letters of assurance like that all the way through  
25 the standard setting process?

1       A.    Yes.  Reliance on those letters is a -- is a  
2 key point.

3       Q.    Okay.  Now, one of the features of these  
4 letters of assurances to the IEEE is an assurance of  
5 non-discrimination, correct?

6       A.    Yes, that's correct.

7       Q.    Okay.  And in this context, the RAND assurance  
8 of non-discrimination means that the intellectual  
9 property costs for products compliant with the standard  
10 will be equal to or no more burdensome than the cost of  
11 a competitor.

12            You agree with that, don't you, if you put it  
13 in your report?

14       A.    Yes, I do.

15       Q.    Okay.  And you understand, just to put all  
16 this in context, that Ericsson has offered to license  
17 Intel?  Have you heard that testimony?

18       A.    I -- I've heard that -- that Ericsson has  
19 asked for a 50-cents license fee, so I assume that means  
20 they -- they've offered to license at that rate.

21       Q.    Okay.  What is the -- if you know, what is the  
22 current total royalty on Intel 802.11n chipsets?

23       A.    I don't know.

24       Q.    Thank you.

25            MR. CAWLEY:  Pass the witness, Your

1 Honor.

2 THE COURT: Any redirect?

3 MR. DeVRIES: Yes, Your Honor. Just  
4 briefly.

5 REDIRECT EXAMINATION

6 BY MR. DE VRIES:

7 Q. Dr. Shoemake, you were asked about leaving the  
8 802.11 standards body in 2004. At that time, how many  
9 years had you been involved in developing the 802.11  
10 standards?

11 A. About seven.

12 Q. And what was your position in 2004 when you  
13 stopped associating with the 802.11 standards body?

14 A. I was the chairman of the 802.11n task group.

15 Q. Now, you were asked about the analysis you  
16 conducted about the number of patents related to  
17 802.11n. I just have one question for you.

18 Do you believe that your analysis of that  
19 issue is a reliable indicator of the number of patents  
20 that may be essential to 802.11n?

21 A. I do. I think it's a good proxy.

22 Q. Okay. Now, you were asked about a 2003 letter  
23 that Ericsson submitted to 802.11. Do you recall that?

24 A. Yes.

25 Q. Okay. Now, that's a different letter than the

1 one that Ericsson submitted to 802.11n; isn't that  
2 right?

3 A. That's correct.

4 Q. Is there any limitation, Dr. Shoemake, in  
5 Ericsson's letter of assurance to 802.11n where Ericsson  
6 says: We are not going to license chip makers?

7 A. No, there's none there.

8 Q. Are you aware of any circumstance at the IEEE  
9 in which someone limited their letter of assurance to  
10 require a cross-license not from the party that's going  
11 to be licensed but from that party's customers?

12 A. I have never seen that.

13 Q. Okay. And is it fair to say that one of --  
14 that one goal of the IEEE is that -- for any limitation  
15 on the RAND promise to be clearly spelled out so that  
16 that could be discussed and resolved at the time?

17 A. Yes. If it -- if it's not, it creates a  
18 problem for the -- the system. I mean, one of the  
19 things we're trying to do is create an environment where  
20 people can be free -- free to operate. And if the terms  
21 aren't called out at the time and votes are taken on it,  
22 that's quite problematic.

23 MR. DeVRIES: I have no further  
24 questions, Your Honor.

25 THE COURT: All right. Anything further?

1 MR. CAWLEY: I have nothing further, Your  
2 Honor.

3 THE COURT: All right. Any members of  
4 the audience have a question for this witness?

5 [Laughter]

6 THE COURT: No?

7 All right. Thank you. You may step  
8 down.

9 THE WITNESS: All right. Thank you,  
10 Judge.

11 THE COURT: All right. Who will be next?

12 MR. ALPER: Your Honor, the Defendants  
13 call Dr. Chris Heegard.

14 THE COURT: Okay.

15 MS. MORGAN: Good afternoon, Your Honor.  
16 Christine Morgan on behalf of Defendants.

17 May I proceed?

18 THE COURT: Yes, you may.

19 CHRIS HEEGARD, Ph.D., DEFENDANTS' WITNESS,

20 PREVIOUSLY SWORN

21 DIRECT EXAMINATION

22 BY MS. MORGAN:

23 Q. Good afternoon, Dr. Heegard.

24 A. Good afternoon.

25 Q. You're here today to talk about certain

1 alternatives to the accused features of the 802.11n  
2 standard; is that right?

3 A. That's right.

4 Q. And before you get into your opinions, have  
5 you made certain assumptions in reaching the opinions  
6 you're here to testify about today?

7 A. Yes, I have.

8 Q. What assumptions have you made?

9 A. So my understanding of the question that I'm  
10 addressing is that, although I may not personally  
11 believe the patents are being infringed, I have studied  
12 the Plaintiffs' arguments about how products are being  
13 infringed by 802.11.

14 And so I've looked at the question of how --  
15 at the time the standard was being ratified, how the  
16 standard could have been designed to not infringe the  
17 alleged activities that -- that Ericsson says makes the  
18 products infringe.

19 Q. So you've assumed infringement for purposes of  
20 your analysis?

21 A. I've adopted the Plaintiffs' explanation of  
22 how the products infringe and used that as a basis to  
23 ask the question, well, if that is an infringing  
24 activity, what could you do to -- as an alternative to  
25 that.

1       Q.    And what are your opinions about whether there  
2  were non-infringing alternatives available at the time  
3  the standard was being developed?

4       A.    My opinion is that for all five patents, there  
5  were viable alternatives that the standards body could  
6  have used at the time they were setting the standard  
7  that would not infringe.

8       Q.    All right.  And you testified during -- in  
9  front of the jury about your background and your company  
10 Alantro.  Is it fair to say that based on your  
11 experience with Alantro, you're knowledgeable about how  
12 to design and make 802.11-compliant chips?

13      A.    I think I am, yes.

14      Q.    All right.  Well, with that background in  
15 mind, let's turn to your opinions.

16           First of all, what did you consider to be the  
17 relevant timeframe for assessing whether non-infringing  
18 alternatives exist?

19      A.    I used the timeframe of 2006 to 2007.  That's  
20 when the 11n standard was really being put together.

21      Q.    And the alternatives that you've identified,  
22 were those available during that timeframe?

23      A.    Yes.  They were all available at that  
24 timeframe.

25      Q.    All right.

1 MS. MORGAN: Let's on pull up Slide 2, if  
2 we could.

3 Q. (By Ms. Morgan) And can you tell us what work  
4 you did, Dr. Heegard, in arriving at your opinions?

5 A. Sure. I can do that.

6 I -- of course, I reviewed all the patents. I  
7 read the disclosures and studied the claims that were  
8 being asserted and the claim construction.

9 I listened to the arguments of the Plaintiff  
10 in terms of Ericsson's infringement contentions. And I  
11 read Dr. Nettles' reports. I reviewed prior art. As we  
12 know, I -- we discussed some of that the other day.

13 I, of course, reviewed the 802.11 standard,  
14 and in particular, 802.11n standard. And I spoke with  
15 Bill McFarland of Qualcomm Atheros --

16 Q. Okay.

17 A. -- how their parts work.

18 Q. Thank you.

19 MS. MORGAN: Could we have Slide No. 3,  
20 please?

21 Q. (By Ms. Morgan) How do the features of 802.11n  
22 that Ericsson has accused in this case fit into the  
23 overall 802.11n standard?

24 A. The material in all of those patents is, like,  
25 related to very minor aspects of 802.11.

1 Q. And -- and why do you say that?

2 A. There are lots of reasons.

3 One reason is that the 802.11 standard has a  
4 lot of technology in it. I was involved in developing a  
5 lot of the early technology; and I know, for example, in  
6 802.11n, a lot of the excitement about 11n was to get  
7 the data rate up. And so there was a lot of stuff on  
8 the physical layer that was very innovative.

9 The -- the patents at issue involved  
10 refinements to very well-known techniques, such as ARQ.  
11 ARQ has been known for a really long time.

12 Aggregation of packets; block acknowledgement  
13 of packets; QoS and packet prioritization, all of those  
14 have been around well before the patents were even  
15 applied for.

16 Q. All right. Let's get right to it.

17 MS. MORGAN: Let's pull up Slide No. 4  
18 and talk first about the '215 patent.

19 Q. (By Ms. Morgan) What is the non-infringing  
20 alternative you've identified with respect to features  
21 of 802.11 that Ericsson accuses of infringing the '215?

22 A. Okay. My understanding of the '215 is that  
23 Dr. Nettles has pointed to what's called the type  
24 identifier field in the packets as being the -- is it --  
25 is it making noise? Thank you.

1                   There's a requirement in the claim that there  
2 be a type identifier field, and he's pointed to two bits  
3 in the packet that are the compressed bitmap bit and the  
4 Multi-TID bitmap, and he's saying that that's the type  
5 identifier field.

6                   So the -- the non-infringing alternative is  
7 really pretty simple. Since the 802.11 body was  
8 interested in just doing compressed bitmap  
9 acknowledgements, they could have -- rather than going  
10 to the 11e standard and using what they -- had already  
11 been defined in the table and just saying let's use the  
12 third element of that table, they could have just said  
13 we're just going to use block -- compressed bitmap  
14 acknowledgements and not send those two bits.

15                Q. All right. And I think you have a couple of  
16 slides to describe how this alternative would have  
17 worked.

18                   MS. MORGAN: Can we pull up Slide 5,  
19 please?

20                A. Right. So this is indicating that they could  
21 have just not used this table, which was -- had already  
22 been developed because they were only going to use -- I  
23 guess it's the second element of that table.

24                   And at the time they were writing the  
25 standard, they certainly could have just said, okay,

1 we're going to just use compressed BlockAck because --  
2 since that's all they wanted to use, and they would just  
3 not use this table, which would mean -- on the next  
4 slide --

5 MS. MORGAN: Next slide.

6 A. -- that you wouldn't send those two bits. You  
7 would just -- if you look at the -- at this particular  
8 part to the MAC frame, there's nine reserve bits, and  
9 they could have just made those 11 reserve bits and not  
10 used those bits.

11 Q. (By Ms. Morgan) Would --

12 MS. MORGAN: Let's go back to Slide 4,  
13 please.

14 Q. (By Ms. Morgan) Would using this alternative  
15 have affected performance?

16 A. Not at all.

17 Q. All right. And why not?

18 A. Because it would perform exactly the way the  
19 standard works now. They only use the compressed bitmap  
20 acknowledgement, so there -- there really would be no  
21 change.

22 Q. All right. And what type of engineering  
23 effort would have been involved in implementing this  
24 alternative?

25 A. Essentially, zero.

1       Q.    And why would this alternative be  
2 non-infringing?

3       A.    Once you decided to not put those two bits  
4 into the packets, there's no type identifier field as  
5 required by the claim.

6       Q.    Thank you.

7               Let's move to the '223 patent.

8               MS. MORGAN:  And if I could have Slide 7,  
9 please.

10       A.    As part of the '223 patent, my understanding  
11 is, only the Intel chips are being accused of  
12 infringement and that the chips from four other -- maybe  
13 the four other parties that make chips here, Broadcom,  
14 Qualcomm, Realtek, and Ralink, none of those chips, in  
15 fact, infringe the patent.

16       Q.    All right.  And you were here when Dr. Nettles  
17 testified to that fact in the trial?

18       A.    Right.  Dr. Nettles admitted that those -- the  
19 chips from those four vendors do not infringe these  
20 patents -- this patent.

21       Q.    All right.  Let's move to the '568 patent.

22               MS. MORGAN:  And if I could have Slide 8,  
23 please.

24       Q.    (By Ms. Morgan) What is the non-infringing  
25 alternative you've identified with respect to the '568

1 patent?

2 A. It's similar to the -- to the previous one.

3 There is a -- some information that's encoded  
4 into the MAC header that need not be there.

5 In this particular case, there's something  
6 called -- well, first off, the claim requires a service  
7 type identifier. And Dr. Nettles points to the TID  
8 subfield as providing the service type identifier.

9 And the TID field, under certain  
10 circumstances, basically, lists the priority of the data  
11 which is used to determine which queue it sends in.

12 I think there was a lot of discussion about  
13 those four queues, and the queue is determined from the  
14 TID field.

15 But, in fact, the prior -- the priority  
16 information that's in the TID field is not used, once  
17 it's left the transmitter.

18 So, although the standards body decided to  
19 include that in the header and send it, it really has no  
20 application. So it would be very easy for them to just  
21 take it out.

22 Q. All right. And I think we have a picture on  
23 the next slide of how this would work in practice. Can  
24 you explain this?

25 A. Yeah. When a packet was going to be

1 transmitted, the priority number would be used -- it's a  
2 little confusing, because there are eight priorities and  
3 four queues, so there's some function that says, okay,  
4 a -- maps pairs of priorities to the same queue.

5 And so that function can occur. It's all done  
6 at the transmitter; and rather than sending that  
7 priority number in the packet, it could have just not  
8 sent it.

9 Q. All right.

10 MS. MORGAN: And let's go back to Slide 8  
11 for a minute.

12 Q. (By Ms. Morgan) Why would this alternative be  
13 non-infringing?

14 A. The claim requires that there be a service  
15 type identifier field in the packet that identifies  
16 something about the -- actually, the type of data in  
17 the -- in the payload.

18 And Dr. Nettles has pointed to the TID  
19 subfield, the information in that subfield that tells  
20 you the priority of the data as being the service type  
21 identifier; and by simply not transmitting that, you  
22 would not be infringing the claim.

23 Q. And would this alternative have affected  
24 performance of the system?

25 A. Not at all.

1 Q. And why is that?

2 A. Because there's no real application I can  
3 think of or that anyone else has proposed for using  
4 that -- for having that in the packet, because all  
5 the -- the purpose of it is at the transmitter, and so  
6 it's -- it has no purpose really.

7 Q. All right. Can you move away from the mike a  
8 little bit. Thank you.

9 A. Okay.

10 Q. What type of --

11 A. Sorry.

12 Q. That's all right.

13 What type of engineering effort would have  
14 been required to implement this alternative?

15 A. Essentially, nothing.

16 Q. Okay.

17 MS. MORGAN: Let's turn to the '625 and  
18 '435 patents. And if I could have slide 10, please.

19 Q. (By Ms. Morgan) For these two patents and the  
20 accused functionality of the standard, what  
21 non-infringing alternatives did you identify?

22 A. I'm going to -- I actually found a number of  
23 them. I'm going to discuss two of them.

24 Q. And what are those two?

25 A. The first one is to simply do aggregation and

1 use the existing legacy 802.11 ARQ protocol, the same  
2 protocol that was in the original '97 standard and used  
3 through 11g.

4 The second alternative -- and that does not  
5 involve a window.

6 The second alternative is to do essentially  
7 the same as -- as one, but it's a refinement in that.

8 Rather than just doing an acknowledgement --  
9 single acknowledgement, it has a block acknowledgement,  
10 which is not so -- also not a non-infringing idea  
11 because it preexisted the patent application.

12 Q. Okay. I think you meant to say it also is a  
13 non-infringing idea.

14 A. Is a non-infringing idea.

15 Q. You understand that Ericsson, during the  
16 course of this case, has claimed at various times that  
17 both A-MPDUs and BlockAck requests from the 802.11n  
18 standard infringed certain elements of these two  
19 patents?

20 A. Right.

21 Q. Do either of the two alternatives that you've  
22 identified use block acknowledgement requests?

23 A. So that's a good point. No. The block  
24 acknowledgement request is an option in the standard.

25 And so for both of these alternatives, I

1 assume they just took that out of the standard. It's  
2 really not needed. There are certain devices that don't  
3 even use it, and it's really not essential to the  
4 operation of 802.11n, so...

5 Q. All right.

6 MS. MORGAN: Let's pull up Slide 11,  
7 please.

8 Q. (By Ms. Morgan) And to give us some context  
9 for the alternatives you've identified for these two  
10 patents, let's discuss how the prior art 802.11 system  
11 worked.

12 First of all, did the prior art 802.11 legacy  
13 system use aggregation or BlockAck?

14 A. No. Aggregation and BlockAck wasn't in the  
15 original system. It's also not in the two patents.

16 Q. All right. And the prior art system that  
17 we're looking at on the slide here, this depiction of  
18 how it works, when was that system in place?

19 A. Well, this was developed and worked on by the  
20 original 802 group. And I've seen drafts from, say,  
21 1995 that had it in it; but, in fact, it was ratified, I  
22 think, in the summer of '97.

23 Q. Okay. And can you explain how the prior art  
24 system worked?

25 A. Sure. In 802.11, what I'm calling the legacy,

1 the -- is a pretty simple scheme. You send a packet.  
2 So I'm illustrating here that X is being sent  
3 by the transmitter and the receiver receives X; and so  
4 it sends an acknowledgement telling the transmitter that  
5 I received X, which, by the way, is what's happening  
6 almost all the time.

7 We spent a lot of time trying to figure out  
8 what happens when things get lost; but when the system  
9 is working properly, most of the packets -- a large  
10 majority of the packets are just being sent across and  
11 being acknowledged.

12 However, in this kind of a scheme, there are  
13 situations where you need to do retransmission. So  
14 sometimes you send a packet, and it doesn't get  
15 acknowledged, and you send it again, and it  
16 acknowledges, and it goes through.

17 Sometimes you get in a situation where the  
18 channel is, for whatever reason, busy and multiple  
19 attempts to get the packet through are -- fail. And so  
20 there's something called a retry limit at the  
21 transmitter.

22 And if the number of retries hits the limit,  
23 then it's -- gives up on that packet and goes ahead to  
24 the next packet. And that's shown here.

25 Q. All right. Was there any deadlock issue in

1 this prior art approach?

2 A. No. On this approach, since the receiver  
3 isn't expecting to receive anything, it's just taking  
4 what it's being sent. There's no deadlock situation  
5 where the receiver is expecting a packet that the  
6 transmitter has discarded.

7 And so there's no requirement of the receiver  
8 to tell the transmitter to -- or for the transmitter to  
9 tell the receiver to move on. It's just, by sending the  
10 next packet, it knows I'm moving along.

11 Q. And was there any requirement for a command to  
12 receive or a discard message in this system?

13 A. Since deadlock never occurs in here, there's  
14 no require -- there's no need for a solution to the  
15 problem, which is either commanding the receiver to  
16 receive something or to discard something or to  
17 calculate that something has been discarded at the  
18 transmitter.

19 Q. All right.

20 MS. MORGAN: Let's move to the next  
21 slide, please.

22 Q. (By Ms. Morgan) With that context of the prior  
23 art system, could you please describe the first  
24 non-infringing alternative you've identified,  
25 aggregation with single acknowledgement?

1       A.    So this Alternative 1 is actually part of 11n  
2 and is implemented and is not an accused method of doing  
3 aggregation.

4           So in this case, the packets coming into the  
5 MAC, the MSDUs, a number of them are put together and  
6 sent together on -- in one packet.

7           And then -- so that's illustrated here.

8           There's a transmission in blue that shows four  
9 packets going across the receiver. And in normal mode,  
10 it's received correctly with no errors, it sends an  
11 acknowledgement back saying, yeah, I got all the  
12 packets.

13           The exceptional case is when something is sent  
14 across, and there's a failure. For example, the second  
15 packet might not be -- might not arrive. And so the  
16 second packet is an error.

17           In this case, the receiver cannot -- will not  
18 acknowledge, because it didn't receive everything; and  
19 so it doesn't send the acknowledgement, which tells the  
20 transmitter, just like in the legacy one, to -- to send  
21 it again, and it sends all four packets again.

22           Q.    All right. And what happens in this example  
23 we're looking at if the transmission of Packet No. 2  
24 doesn't get through?

25           A.    Well, it's -- if -- if the next transmission

1 got -- gets through, there will be an acknowledgement.

2 If it doesn't get through, it will be sent  
3 again.

4 And so there will be a number of tries to send  
5 the four packets across. And if an acknowledgement is  
6 never received by the transmitter but the number of  
7 tries hits the retry limit, then the transmitter will  
8 give up on those four and go to the next four.

9 Q. And, again, was there any deadlock problem in  
10 this approach?

11 A. There's no deadlock problem.

12 Q. All right.

13 A. There's also -- there's no sliding window in  
14 this. There's no shifting window. It's my  
15 understanding that the arguments of Ericsson about  
16 infringing have to deal with the sliding window feature  
17 of 802.11n.

18 Q. Thank you.

19 MS. MORGAN: Can we move to the next  
20 slide, please?

21 Q. (By Ms. Morgan) What type of engineering  
22 effort would have been required to implement this  
23 alternative?

24 A. It's actually less complex, and it's actually  
25 part of the standard now, so people do it. So it's low.

1 Q. All right. Are you aware of any products that  
2 actually use this approach?

3 A. There are products that have used and probably  
4 still use it.

5 Q. And would this alternative affect performance  
6 of the system?

7 A. It would not significantly reduce performance.

8 Q. All right.

9 MS. MORGAN: Let's go to the next slide,  
10 please.

11 Q. (By Ms. Morgan) Could you explain for us your  
12 second non-infringing alternative with respect to the  
13 '625/'435 patents, aggregation with BlockAck but without  
14 window?

15 A. Right. The -- this scheme is very similar,  
16 except it's a little more efficient in the sense that it  
17 doesn't send packets across the air that have already  
18 been received correctly.

19 So it's -- rather than aggregating MSDUs,  
20 which are the ones coming into the MAC, it aggregates  
21 MPDUs, which have, for example, sequence numbers  
22 attached to them from -- that the header -- the MAC  
23 assigns to them.

24 So now the packets have a number associated  
25 with them, so when they're sent across the channel -- so

1 in this case, it sends packets 1 to 4 -- when no errors  
2 are received, the acknowledgement tells the transmitter  
3 1, 2, 3, and 4 is received, and then it goes on.

4 However, if you're back in the scenario where  
5 you send the four packets across, and the second packet  
6 is received with error, the receiver tells the  
7 transmitter with an acknowledgement that I received 1,  
8 3, and 4.

9 The transmitter now knows that you're -- that  
10 you need -- that you would like to get 2, and it only  
11 sends 2. It now knows -- since it knows you have 4, 3,  
12 and 1, it only sends you 2.

13 Q. All right. And so in this system, if any  
14 sub-blocks are missing, only those sub-blocks are  
15 retransmitted?

16 A. That's right. It's kind of a -- it works on  
17 this block and tries to narrow it down and hopefully  
18 gets everything through, through retries. Again, if --  
19 after the number of attempts hits the retry limit, it  
20 will give up.

21 This is different than the way l1n works,  
22 because in l1n, it's a little more clever. It would  
23 say, okay, you need 2. I'm going to tack in some new  
24 information.

25 So in this transmission here that shows the

1 single of 2, it would add in say 5, 6, and 7 to try  
2 to -- to send some information. And that's where the  
3 shifting of the window occurs, and that's the alleged  
4 infringement.

5 Q. All right. And in this example, it's prior  
6 art, and there is no window shifting, correct?

7 A. That's right.

8 Q. What type of engineering effort would have  
9 been required to implement this approach?

10 A. This is simpler than what's done with the  
11 shifting of the window, because it's just a block-based  
12 system. You don't have to have that complicated  
13 procedure to try to have one window sliding along and  
14 another one following it.

15 Q. And would this alternative affect performance?

16 MS. MORGAN: Could we go the next slide,  
17 please?

18 A. At most, some marginal amount.

19 Q. (By Ms. Morgan) All right. And for all of the  
20 alternatives you've just testified about for the five  
21 patents-in-suit, would the user experience be different  
22 if the alternatives were implemented?

23 A. Not at all.

24 Q. Okay. Thank you, Dr. Heegard.

25 A. Thank you.

1 MS. MORGAN: Pass the witness.

2 THE COURT: Cross-exam.

3 CROSS-EXAMINATION

4 BY MR. CAMPBELL:

5 Q. Good afternoon, Dr. Heegard.

6 A. Good afternoon.

7 Q. I don't think we've had a chance to meet --

8 met -- meet. My name is John Campbell. I'm one of the  
9 attorneys for Ericsson.

10 A. John Campbell?

11 Q. That's correct.

12 A. Okay.

13 Q. Just a few questions for you.

14 On your direct, I didn't hear you provide any  
15 evidence of testing any of these non-infringing  
16 alternatives, did you?

17 A. No.

18 Q. And I also didn't hear you provide any  
19 evidence that the IEEE considered any of these  
20 non-infringing alternatives, did you?

21 A. No, I didn't.

22 Q. Now, do you -- you -- you've offered a number  
23 of non-infringing alternatives. Do you know if there  
24 are any patents related to the non-infringing  
25 alternatives?

1 A. I don't know.

2 Q. Okay. You didn't do a search for that?

3 A. No.

4 Q. Okay. Let's talk about the '215.

5 The '215 has a Multi-TID frame variant for  
6 power save mode, correct?

7 A. 11n doesn't use that, as far as I know.

8 Q. Its in the standard, correct, sir?

9 A. It's in the 11e standard.

10 Q. It's in the 11n standard as well, correct?

11 A. It's not used.

12 Q. All right. I understand, sir. I'm asking  
13 you, is it in the 11n standard?

14 A. I don't think it is, actually.

15 Q. Okay.

16 A. I don't think if you -- if you make a product  
17 that does 11n, they don't use that; and so I don't  
18 really think it is part of 11n.

19 Q. So we won't find it in the 11n standard if we  
20 look at the IEEE 11n standard?

21 A. I think it came from the 11e, and they wanted  
22 that particular variant, and so they used the text from  
23 11e.

24 Q. Maybe I'm not being very clear with my  
25 questions.

1               If we look at the 11n standard, the  
2 document --

3               A.    Okay.

4               Q.    -- are we going to find a Multi-TID power save  
5 mode variant?

6               A.    Well, the way the standard was written, those  
7 two numbers are sent. So it should be described in 11n.

8               Q.    So it is in there; is that correct, sir?

9               A.    The two bits that are used, the particular  
10 combination is in the standard, yes.

11              Q.    Okay. And you understand that some members of  
12 the IEEE wanted to make that mandatory, correct, sir?

13              A.    Wanted to make what mandatory?

14              Q.    The Multi-TID variant or the power save mode.

15              A.    I don't know.

16              Q.    You talked to Mr. McFarland, correct, sir?

17              A.    Okay.

18              Q.    You have, right, sir?

19              A.    Yeah.

20              Q.    Okay. You understand he's testified that some  
21 members wanted to make that mandatory?

22              A.    I don't recall that.

23              Q.    Okay.

24                    MR. CAMPBELL: Let's bring up

25 Mr. McFarland depo at Page 38, Lines 10 to 17.

1 Q. You said you had talked to Mr. McFarland,  
2 correct, sir?

3 A. I did talk to him, yeah.

4 Q. Okay.

5 QUESTION: If you look here, you can see  
6 the question is: So there was a movement to make the  
7 PSMP and the Multi-TID BlockAck mandatory?

8 ANSWER: Yes. There were definitely  
9 people who wished that it were mandatory.

10 QUESTION: And across how many meetings  
11 do you think this was discussed?

12 ANSWER: A fair number. This was, you  
13 know, three, four.

14 Q. (By Mr. Campbell) Did I read that right?

15 A. It looks right.

16 Q. Okay. Now, 802.11e used the basic BlockAck,  
17 correct, sir?

18 A. 802.11e, I think, defined the different types  
19 of block -- block acknowledgements.

20 Q. Okay. The device compliant with 802.11e,  
21 would it use basic BlockAck or the compressed?

22 A. Basic BlockAck is when you're doing  
23 aggregation with fragmentation; and when you're doing  
24 aggregation with fragmentation, you need to use the  
25 basic BlockAck. So yes.

1 Q. So the answer is yes?

2 A. 802.11e.

3 Q. Now, is it important that the IEEE, for new  
4 versions of the standard, to provide backwards  
5 compatibility?

6 A. Of course.

7 Q. Okay. Let's talk about the '223 patent.

8 Would you agree that Intel's chips are  
9 probably the best in the industry?

10 A. I have no opinion on that.

11 Q. You don't have an opinion on that?

12 A. No.

13 Q. Do you think Intel's chips are regarded as the  
14 best in the industry?

15 A. I have no idea.

16 Q. Okay. Does Intel command a higher price than  
17 other chip makers in the industry?

18 A. I have no idea.

19 Q. All right. Now, Intel uses both a retry  
20 counter and a -- and a timer, correct, sir?

21 A. That's my understanding.

22 Q. Okay. Now, could Intel, if they removed the  
23 timer, still maintain interoperability?

24 A. You have to transmit the timer, if the  
25 question is whether you use it at the receiver, is my

1 understanding. I have not written a report on  
2 non-infringement of the '223.

3 Q. You didn't just testify here as to a  
4 non-infringing alternative for the '223?

5 A. I simply stated a fact, that it -- that there  
6 are -- four of the five chips that have been discussed  
7 in this group, four of the five have been admitted by  
8 Dr. Nettles as not infringing the patent.

9 That's all I said. I didn't have an opinion  
10 about infringement or anything else. I simply stated  
11 that only Intel is being accused, and the four other  
12 vendors are the -- the other side has admitted they do  
13 not infringe, and that's all I -- that's all that slide  
14 says.

15 Q. Okay. So just to be clear, you don't have an  
16 opinion on a non-infringing alternative for the '223  
17 patent; is that correct, sir?

18 A. I think you could play --

19 THE REPORTER: I'm sorry. I'm sorry.

20 Could you --

21 THE COURT: You're getting a little too  
22 close to the microphone.

23 THE WITNESS: Okay.

24 THE COURT: If you'll push it back --

25 THE WITNESS: I'm sorry.

1                   THE COURT: -- and try to stay about that  
2 far away from it (indicating).

3                   THE WITNESS: I'll try.

4                   Q. (By Mr. Campbell) Let me -- let me ask my  
5 question again just to get us back on track.

6                   Sir, yes or no, do you have a non-infringing  
7 alternative -- do you have an opinion on a  
8 non-infringing alternative for the '223 patent?

9                   A. If I had a Ralink chip, that's not infringing.

10                  Q. How does buying a Ralink chip make the Intel  
11 chip non-infringing?

12                  A. The question is, are there non-infringing  
13 alternatives? Those chips are non-infringing. They're  
14 alternatives that are available now.

15                  Q. Okay. Do you --

16                  A. So you could -- that's the point.

17                  Q. Sir, do you have an opinion about the Intel  
18 chip, a non-infringing alternative for the Intel chip?

19                  A. That's not what I'm --

20                  Q. The answer is no?

21                  A. I don't have an opinion.

22                  Q. You don't have an opinion. The answer is no.

23                  A. (No response.)

24                  Q. You don't have an opinion; is that correct,  
25 sir?

1       A.    There are non-infringing alternatives because  
2 four of the five chips don't infringe.

3       Q.    Sir, do you have an opinion as to a  
4 non-infringing alternative for the Intel chip?

5       A.    Intel could do what the other vendors do.

6       Q.    Which is what?

7       A.    It's a non-infringing alternative.

8       Q.    Do they use the timer?

9       A.    They don't use the timer.

10      Q.    Okay. So could Intel remove the timer and  
11 still be interoperable?

12      A.    Sure.

13      Q.    They would still get Wi-Fi certification?

14      A.    Sure.

15      Q.    Thank you, sir.

16            Okay. On the '568, your non-infringing  
17 alternative is still identifying traffic priority, just  
18 in a different way; is that correct, sir?

19      A.    My understanding of what -- what Ericsson says  
20 is infringing is when you send the traffic priority,  
21 which they're identifying as the type identify -- the  
22 TID as serving the role of the claim. It's the priority  
23 number. That's what I understand the -- Ericsson's  
24 argument is, the -- can we look at the slide? It's  
25 like --

1 Q. So --

2 A. -- data type identifier or whatever it is in  
3 the claim.

4 Q. So I don't have a lot of time. Could I get  
5 you to answer my question?

6 A. Sure.

7 Q. Okay. That would be great.

8 My question is: Your non-infringing  
9 alternative still identifies traffic priority just in a  
10 different way, correct, sir?

11 A. The traffic priority -- to infringe, you have  
12 to send in that MAC header something that tells you  
13 about the nature of the data.

14 And if you don't send the thing that's being  
15 accused, if the -- if the information that Ericsson says  
16 is providing that information is not sent, you're not  
17 infringing.

18 Q. Sir, let's try a yes or no.

19 Your non-infringing alternative is still  
20 identifying traffic priority, just in a different way.

21 A. No.

22 Q. No?

23 A. No.

24 Q. You're not identifying traffic priority?

25 A. I'm not sending an identification of the

1 traffic priority.

2 Q. That's not my question, sir. Are you  
3 identifying traffic priority?

4 A. There is traffic priority.

5 Q. Thank you, sir.

6 And you need to identify that traffic priority  
7 because identifying traffic priority has value, correct,  
8 sir?

9 A. At the transmitter.

10 Q. The answer is yes?

11 A. At the transmitter.

12 Q. Yes?

13 A. It has no value at the receiver, knowing that.

14 Q. Okay. The answer is yes, at the transmitter?

15 A. It's useful at the transmitter.

16 Q. There's no value, in your opinion, to sending  
17 the priority value to the receiver?

18 A. That's right.

19 Q. If I'm working in a local area network --

20 A. Okay.

21 Q. -- does the receiver use the priority value?

22 A. Are you talking about the priority value that  
23 comes in the Ethernet packet, or are you talking about  
24 the priority value that's computed at the transmitter to  
25 determine which queue you're in?

1                   Those are two different priority values. The  
2 value in the packet is still going to be sent, but --  
3 because it's in the payload.

4                   But if you're talking about the priority data  
5 that's used in 802.11 to determine which queue it's in,  
6 you don't need to send it, because it has no use further  
7 down the chain.

8                   Q.    The receiver would not use that in a local  
9 area network?

10                  A.    No.

11                  Q.    Now, for the '625 and '435, the  
12 Alternative 1 --

13                  A.    Okay.

14                  Q.    -- you only acknowledge if the -- you only  
15 send an acknowledgement if the entire block is error  
16 free; is that correct?

17                  A.    That's right.

18                  Q.    And otherwise, you need to -- the transmitter  
19 will need to resend the entire block, correct?

20                  A.    Right.

21                  Q.    Okay. So if -- the transmitter can't just  
22 send a lost packet; it's got to resend the entire block,  
23 correct?

24                  A.    It sends the entire block.

25                  Q.    Okay. So there is some efficiency lost there

1 in needing to send the entire block if only another  
2 packet is needed, correct, sir?

3 A. Right, there is.

4 Q. Okay. And have you done any testing to  
5 determine how much efficiency is lost?

6 A. I haven't, but it's very small.

7 Q. You haven't done any testing to determine the  
8 amount, have you?

9 A. I couldn't give you an exact figure, but if  
10 you send a thousand packets and one in a thousand you  
11 have a problem that you send some re -- packet -- some  
12 parts of it again, it doesn't really affect the  
13 through-put because you got 999 packets through.

14 So, it's only when you're in the error  
15 condition that it's -- there's a slight inefficiency.  
16 But if you're having a lot of errors, then you have  
17 another problem and so you would back off.

18 So the reality of it is, is most transmission,  
19 there's no error; so, there's no -- it's perfectly  
20 efficient. And it's only a very small fraction of the  
21 time would you have a slight inefficiency.

22 Q. Let me ask my question again. You haven't  
23 done any testing to test the efficiency loss, have you?

24 A. I haven't tested it, no.

25 Q. Okay. Now, in Slide 15, you admit that

1 alternative 2 has some performance degradation, correct,  
2 sir?

3 A. No, I don't. I said marginal.

4 Q. Okay. Marginal is not some performance  
5 degradation?

6 A. Marginal is insignificant.

7 Q. Have you done any testing to measure the  
8 marginal system performance degradation, sir?

9 A. No.

10 Q. Thank you, sir.

11 MR. CAMPBELL: Pass the witness.

12 THE COURT: All right. Redirect.

13 REDIRECT EXAMINATION

14 BY MS. MORGAN:

15 Q. Dr. Heegard, I believe you testified that --  
16 in cross-examination that the alternatives you  
17 identified were not considered by the IEEE.

18 I think you may have been mistaken because  
19 wasn't the first approach you identified for the '435,  
20 '625 patents, isn't that part of the standard today?

21 A. That's true. I probably shouldn't have said  
22 blanket.

23 Q. Okay. And counsel asked you a number of  
24 questions about whether you tested these alternatives?

25 A. Right.

1       Q.     Did you feel it was necessary to test these  
2 alternatives?

3       A.     No.

4       Q.     Why not?

5       A.     Because they're all pretty minor tweaks and  
6 they wouldn't really have a significant effect on any of  
7 the things. So, if whether you send two bits or not, or  
8 whether you acknowledge packets slightly differently,  
9 doesn't really affect the user experience in any  
10 significant way.

11       Q.     Thank you.

12            THE COURT: All right. Any further  
13 questions?

14            MR. CAMPBELL: No, Your Honor.

15            THE COURT: All right. You may step  
16 down.

17            Who will be your next witness?

18            MR. ALPER: Your Honor, Defendants call  
19 Dr. Greg Leonard.

20            THE COURT: All right. Dr. Leonard.

21            Let me just, while he's coming up, advise  
22 the parties the jury had asked the Court Security  
23 Officer if they could quit at 4:00 today, and... I'll  
24 write them note.

25            COURTROOM DEPUTY: Your Honor, may I go

1 ahead and swear in the witness?

2 THE COURT: Yes, you may.

3 (Witness sworn.)

4 THE COURT: All right. I'm going to send  
5 a note in to the jury that simply says: You may work at  
6 your desired schedule. You may quit at 4:00 p.m. or  
7 keep working as late as you wish.

8 Any objection to that note?

9 MR. STEVENSON: No objection.

10 MR. VAN NEST: No, Your Honor.

11 THE COURT: All right. Thank you.

12 Oh, let me add one more thing. I'm  
13 adding another sentence: Please let me know your plans.

14 All right. You may proceed, Counsel.

15 MR. MITCHELL: Thank you, Your Honor.

16 GREGORY LEONARD, Ph.D., DEFENDANTS' WITNESS, SWORN

17 DIRECT EXAMINATION

18 BY MR. MITCHELL:

19 Q. Please introduce yourself to the Court.

20 A. My name is Gregory Leonard.

21 Q. And, Dr. Leonard, did you prepare any slides  
22 to help walk the Court through your background and  
23 opinions today?

24 A. I did.

25 MR. MITCHELL: Let's pull up slide 2,

1 please.

2 Q. (By Mr. Mitchell) I'd like to briefly review  
3 your qualifications. What do you do for a living?

4 A. I'm an economist and a partner at an economic  
5 consulting firm called Edgeworth Economics.

6 Q. And can you describe for the Court your formal  
7 education?

8 A. Yes. I received a Bachelor of Science degree  
9 in applied math and economics from Brown University and  
10 a Ph.D. in economics from MIT?

11 Q. Any teaching experience?

12 A. Yes. I was an assistant professor at Columbia  
13 University in the economics department.

14 Q. And have you done any publishing, particularly  
15 articles on economics?

16 A. Yes. Over the course of my career, I have  
17 published probably about 60 journal articles, book  
18 chapters, that kind of thing.

19 Q. And have you ever been cited?

20 A. My work on patent damages in particular has  
21 been cited both by the Federal Trade Commission, in a  
22 recent report it did on patent damages in other patent  
23 litigation issues, and by the Federal Circuit in its  
24 Uniloc opinion.

25 Q. And what was your assignment in this case,

1 Dr. Leonard?

2 A. My assignment was to analyze the value of  
3 Ericsson's asserted patents, particularly in light of  
4 its RAND commitments.

5 Q. And how do you go about doing that?

6 A. Well, economists are widely agreed that the  
7 meaning of RAND, or at least a reasonable part of RAND,  
8 is that you should look at a royalty or value in terms  
9 of the -- the -- what the patented features provide over  
10 alternatives that might have been available at the time  
11 the standard was set.

12 Q. Before we jump into your opinions, can you  
13 briefly describe what information you considered or  
14 relied upon in formulating your opinion?

15 A. Yes. I reviewed documents produced by the  
16 parties in the case, deposition transcripts, the reports  
17 of the technical experts. I also talked to Dr. Shoemake  
18 and Heegard, and I also talked to employees of Qualcomm  
19 Atheros.

20 Q. And on the question of the value of Ericsson's  
21 patents, what is your opinion?

22 A. My opinion is that it's quite low.

23 Q. And can you elaborate a little further for us  
24 in terms of, you know, how you got to that opinion?

25 A. Yes. As we've just heard from Dr. Heegard,

1 there were very good non-infringing alternatives that  
2 the standard could have used instead of the Ericsson  
3 technologies, and given that, then the value of the  
4 Ericsson technologies is low.

5 That's the definition of -- you know, that's  
6 how value is created. You have to provide something  
7 above the non-infringing alternatives, and in this case,  
8 that's not the case.

9 Q. And I'd like to turn now to the issue of  
10 patent hold-up. And can you describe that for the Court  
11 a little bit about that phenomenon?

12 MR. MITCHELL: And we can go ahead and  
13 bring up Slide 3.

14 A. Sure. So an important part of RAND and the  
15 whole idea of a RAND commitment that standard setting  
16 organizations ask their participants to make is to avoid  
17 what's called patent hold-up. And so to explain that,  
18 I've created this exhibit here.

19 And so the idea is, again, when this industry  
20 is a standard setting organization is -- is determining  
21 what the standard should look like. There are a bunch  
22 of technical problems that need to be solved, and for  
23 each one of those problems, there's often more than one  
24 alternative technology that could be used to solve the  
25 problem. And, of course, when you make that choice and

1 then put it together, you have the standard.

2 So, in the picture here I've illustrated that  
3 the industry is -- is sitting at a particular fork in  
4 the road. There are two different technologies that it  
5 could adopt to solve a particular problem that, you  
6 know, is part of what needs to be addressed by the  
7 standard.

8 There's a right fork in the road which would  
9 be to use a non-infringing alternative. There's a left  
10 fork in the road which would be to use Ericsson's  
11 technology. And the way I've drawn this it was -- it  
12 was deliberate. It says that whichever fork in the road  
13 you take, the length of the road you'd have to drive is  
14 the same. So that is to say the two technological  
15 choices are basically for all intents and purposes  
16 equivalent.

17 And in that kind of situation, then, if you  
18 think about Ericsson asking the industry to pay a toll  
19 for it's -- the use of its technology, that is to say a  
20 royalty, when the industry has the choice of taking that  
21 right-hand fork instead of paying Ericsson a toll, then  
22 what's going to happen is Ericsson's ability to charge a  
23 high royalty is going to be severely constrained,  
24 because the industry is going to say, you know, we're  
25 not going to pay you anything, Ericsson, because we can

1 just take the right-hand fork in the road and be on our  
2 way and without any hidden performance at all.

3 Q. (By Mr. Mitchell) And then so that was the  
4 before hold-up, right?

5 A. Right. So this is, again, when the industry  
6 is setting the standard, it's making the choices about  
7 what technologies to include, and it has complete  
8 flexibility to choose a non-infringing alternative,  
9 which in this case, again, as I've drawn it, is just as  
10 good as the Ericsson technology.

11 Q. And then let's turn to the next slide and  
12 tell --

13 THE COURT: Counsel, let me interrupt you  
14 for a moment. I have jury Note No. 2 from the jury that  
15 said -- says: We are not close to decisions. Would  
16 like to return tomorrow morning. Signed by the  
17 Foreperson.

18 And I propose to write back the following  
19 response -- response to jury note No. 2:

20 Very good. You are excused until 9:00  
21 a.m. in the morning. Please remember my instructions  
22 while you are in recess. Once all eight of you are  
23 present in the morning, you may continue your  
24 deliberations. Have a good evening.

25 Is there any objection to that response?

1 MR. STEVENSON: No objection.

2 MR. VAN NEST: No, Your Honor.

3 MR. STEVENSON: All right. Thank you.

4 All right. You may proceed.

5 Q. (By Mr. Mitchell) All right. Dr. Leonard, I  
6 think you were just going to introduce us to this next  
7 slide here. Why don't you go ahead and -- and walk us  
8 through what this slide illustrates?

9 A. So this illustrates the hold-up problem, and  
10 that can occur once the industry has already chosen  
11 which technology it's to incorporate into the standard.

12 It's already set the standard. It's already  
13 designed products that are compliant with the standard  
14 and started selling them in the marketplace. And that's  
15 represented on this diagram by the fact that the  
16 industry has already chosen the left fork, which was  
17 covered by Ericsson's technology, and is driven the full  
18 length of the road.

19 And it's only then that Ericsson stops the  
20 industry and says at this point we want to talk to you  
21 about royalties.

22 Now the difficulty in the comparison to the  
23 previous slide is at this point the industry has already  
24 committed down the left-hand fork in the road, even  
25 though it was no better than the right-hand fork.

1                   At this point to reverse that decision and go  
2 back and take the right fork would mean driving back all  
3 the way to the original fork in the road and then taking  
4 the right-hand path.

5                   That would take time, that would cost money,  
6 you would have to redesign all your products. You  
7 actually have an installed base of products out there  
8 who would be left high and dry. So it's very, very  
9 unattractive.

10                  So at that point in time, Ericsson, in  
11 principle, could ask for a fairly high royalty, but that  
12 royalty would not be reflecting the true economic value  
13 of their technology but instead the fact that the  
14 industry was locked in and could be held up.

15                  Q.    Okay. Thank you.

16                  Now back to the question of the valuation of  
17 the Ericsson's patents. Did you determine an actual  
18 value that would be paid by Defendants for a license  
19 under Ericsson's patents?

20                  A.    I did under, again, RAND terms.

21                  So, I'm excising out hold-up and I'm focusing  
22 just on the economic value of Ericsson patents relative  
23 to the non-infringing alternatives that could have been  
24 available or were available at the time and could have  
25 been adopted into the standard.

1           Q.    And let's turn to the next slide.  And can you  
2  go ahead and summarize your opinion?

3           A.    Yes.  So, after talking to Dr. Heegard and  
4  understanding what the non-infringing alternatives were  
5  and understanding that there really wouldn't be any  
6  affect on performance to speak of, it's really then just  
7  a question of cost.

8                   Would the -- the Ericsson technologies have  
9  been less costly to implement than the non-infringing  
10 alternatives?

11                  And so what I did is I went and talked to the  
12 Qualcomm Atheros engineers about how much it would have  
13 cost to implement the non-infringing alternatives, and  
14 based on the information I received from them, I  
15 determined that the cost would have been about \$190,000  
16 per chip supplier; and that we have five chip suppliers  
17 in the case.

18                  So if you multiply the 190,000 by five, you  
19  get about \$950,000, so that's the total amount of cost  
20  that would be involved in implementing the  
21  non-infringing alternatives, and that really serves in  
22  an upper bound on what the appropriate RAND royalty  
23  would be for Ericsson's asserted patents.

24           Q.    And we'll jump into the specific patent  
25  alternatives in a moment, but can you articulate the

1 reasoning for your opinion on that maximum value of no  
2 more than 950,000 or so?

3 MR. MITCHELL: And we can turn to  
4 Slide 6.

5 A. Yes. Again, it really comes back to the  
6 non-infringing alternatives. This is what determines  
7 value.

8 Something has value only if it offers a  
9 benefit above and beyond whatever the alternative is;  
10 and in this case, as we just heard from Dr. Heegard,  
11 there were several alternatives to each of the features  
12 that have been accused by Ericsson.

13 Each alternative could have been adopted with,  
14 essentially, no loss of performance to speak of.  
15 And we also heard from him, he mentioned the cost of  
16 implementing the alternatives would have been minimal.

17 So for all those reasons, together the value  
18 of Ericsson's patents have to be low when looked at from  
19 a RAND perspective.

20 Q. (By Mr. Mitchell) And as you know, we just  
21 heard from Dr. Heegard regarding the details. But can  
22 you briefly walk us through the non-infringing  
23 alternatives and what your opinions are based?

24 MR. MITCHELL: And we can turn to the  
25 next slide.

1           A.    Yes.  So just very quickly because we just did  
2  hear it.

3               But the -- for the '568 patent, my  
4  understanding is you would just omit any priority code  
5  in the TID subfield.

6               For the '215 patent, the idea would be that  
7  you would remove the subfield that really isn't used for  
8  anything and you would send only compressed BlockAck,  
9  which is what the industry actually already does anyway.

10              For the '223 patent, again, it's just the  
11  Intel chipsets that are accused here.  So that means  
12  whatever Broadcom, Atheros, and the other suppliers are  
13  doing must not be infringing, so either Intel could have  
14  adopted that or the end product manufacturer such as  
15  Acer that use Intel chips could easily just have chosen  
16  Broadcom and Atheros chips instead.

17              And lastly, the '435 and '625 patents, which I  
18  understand can be treated together for this -- for this  
19  issue, the non-infringing alternative would be to use --  
20  still using aggregation, still use block acknowledgement  
21  but just simply don't have the windows shifting.

22              Q.    And the performance implications that -- that  
23  you noted?

24              A.    Yes.  Again, for the first three, I think the  
25  answer's no performance implications whatsoever.  For

1 the last one, as we heard, it's something that's so  
2 small that it's not even noticeable to a -- to a user  
3 and, therefore, completely irrelevant from the point of  
4 view of, you know, would the standard be successful,  
5 would it be adopted.

6 And, you know, that makes a lot of sense, too,  
7 when you consider the fact that the reason 802.11n, for  
8 instance, was a lot faster in terms of data through-put  
9 really had to do with, as Dr. Heegard just told us,  
10 things that had absolutely nothing to do -- you know, no  
11 one disagrees with this -- with the physical layer and  
12 other things that have nothing to do with Ericsson's  
13 patents.

14 Q. I think we'll -- we'll turn now to the  
15 numbers, but before we get to the actual numbers, can  
16 you explain the cost metrics you used to arrive at your  
17 opinions and why; and in particular, were your opinions  
18 based on the incremental cost of implementing the  
19 alternatives or the absolute cost?

20 A. Yes. So the right measure here would be,  
21 given that there are no performance effects to worry  
22 about, the right measure would be to use any incremental  
23 costs in implementing the non-infringing alternatives  
24 relative to what it would have cost to implement the  
25 Ericsson technologies.

1                   So that is to say if the non-infringing  
2 alternatives would have cost a little bit more, then  
3 somebody might have been willing to pay a royalty  
4 reflecting that cost difference to have access to the  
5 Ericsson technology because it would have saved money on  
6 the implementation side.

7                   So that's the right measure, the incremental  
8 cost one.

9                   But for the purposes of my analysis, it's a  
10 lot easier to figure out the absolute costs. Simply,  
11 how much would it have cost in an absolute sense to  
12 implement the non-infringing alternatives? And I used  
13 that as a conservative measure of the incremental cost,  
14 and the incremental costs necessarily must be less. And  
15 so I used that as -- as my measure. In that sense, it's  
16 quite conservative.

17                Q. And so let's now turn to those absolute costs  
18 that -- that you identified. Let's turn to Slide 8.

19                And can you explain how you tallied up the  
20 absolute costs of replacing the accused technologies  
21 with the alternatives?

22                A. Yes. So the first step was I talked to  
23 William McFarland from Atheros who's, I believe, the  
24 vice-president of technology, and James Cho who's an  
25 engineer at Qualcomm Atheros, and I had talked to them

1 about the amount of time it would take and number of  
2 employees to implement the non-infringing alternatives  
3 both on the hardware side and the software side.

4 As it turns out there's some work that needs  
5 to be done in both areas. And what I determined is that  
6 at the absolute outside, it would have taken four months  
7 on each side. So four months of one person working on  
8 the hardware, four months of one person working on the  
9 software to implement the non-infringing alternatives.

10 And then I took those four months and  
11 multiplied them by an appropriately prorated salary for  
12 an engineer. And that number I got both from talking to  
13 Mr. Cho but then also checking it against some  
14 government bureau of labor statistics.

15 And then added on top of that some benefit  
16 costs because, of course, in addition to salary, you  
17 have to pay your engineers' benefits. Again, the data  
18 for that came from some -- some government public  
19 sources.

20 And then added up the money. And it ended and  
21 up being \$189,934 and that's, again, for one chip  
22 supplier to implement the non-infringing alternatives.

23 Since we have five chip suppliers in the case,  
24 I multiplied the -- the per-chip supplier number by five  
25 and obtained the total number of \$949,668. And this

1 would represent again the appropriate RAND royalty  
2 payment that would cover all the Defendants in the case,  
3 and it would cover really all time. It's -- it's a  
4 one-time cost that would cover both past, as we're  
5 sitting here today, but also future.

6 Q. And now how does your valuation for these  
7 patents compare to Ericsson's demanded royalties and the  
8 opinions Mr. Bone offered?

9 A. Well, it's a lot lower than the number that  
10 Mr. Bone put forward, and it's a lot lower than I  
11 understand Ericsson has, for instance, you know,  
12 attempted to offer to Defendants.

13 Q. And what's your understanding on -- of what  
14 that is?

15 A. 50 cents a unit, or in that range.

16 MR. MITCHELL: Now we can go ahead and  
17 put up slide 9.

18 Q. (By Mr. Mitchell) If we choose the midpoint of  
19 the damages Ericsson is seeking here and what it claims  
20 is -- is compliant with RAND, \$34 million, why does this  
21 slide illustrate why yours is right and Ericsson's is  
22 wrong?

23 A. Well, again thinking back to what RAND  
24 means -- RAND means, when the industry had a choice  
25 about what technologies to include in the standard, when

1 it was sitting at the fork in the road, it's going to  
2 think about which fork to go down; and that's the right  
3 place to analyze how much could Ericsson have asked for  
4 in terms of a royalty and have the industry still be  
5 willing to take the left-hand fork in the road.

6 So since the right-hand fork would have cost  
7 the industry about a million dollars, the most Ericsson  
8 could have gotten is a million dollars. Otherwise, the  
9 industry would have said forget it, we're not going to  
10 use your technology, Ericsson. We're going to go on the  
11 right-hand fork in the road and only pay a million  
12 dollars.

13 So the idea that somehow the industry would  
14 ignore their -- you know, what was in their best  
15 interest and instead take the left-hand fork and pay \$34  
16 million, it just doesn't make economic sense, and in the  
17 context of RAND, you know, particularly as I've  
18 described here.

19 Q. And you reviewed Mr. Bone's reports and  
20 opinions, right?

21 A. I did.

22 Q. Okay. And did you identify any problems --  
23 and I want to be brief, but -- with his opinions?

24 MR. MITCHELL: And we can turn up Slide  
25 11.

1       A. Well, in reviewing his analysis, I looked for  
2 him to say what are the benefits of Ericsson's  
3 technologies over the non-infringing alternatives that  
4 could have been used, and I saw absolutely nothing on  
5 that subject. It's an absolutely crucial subject  
6 because unless there are tremendous benefits, you can't  
7 get millions of dollars in royalties, certainly in the  
8 RAND context.

9           So, the fact that there was no analysis of the  
10 actual value of the patents-in-suit I think is the main  
11 problem.

12           And then the second problem is what Mr. Bone  
13 did look at was a set of license agreements, but those  
14 are just really all not comparable or not an appropriate  
15 source of information for determining the RAND royalty  
16 rate. And there's really two reasons for that.

17           One is that they're subject to the very  
18 hold-up that RAND is supposed to excise when we're  
19 trying to determine the RAND rate. Because all those  
20 license agreements were entered into well after the  
21 standard had been set and the industry was locked in.

22           So for that perspective, the licenses are just  
23 not a reasonable basis for determining RAND.

24           And, secondly, I think as we heard in numerous  
25 ways, those licenses are -- for instance, the HP license

1 is a huge cross-license involving many patents,  
2 involving even a purchase of patents by Ericsson from  
3 HP.

4           When you have that kind of situation, it's  
5 very, very hard to isolate the value out of that big  
6 exchange of just the five asserted patents that are at  
7 issue. And in that kind of situation, any attempt to do  
8 that is very likely to be incorrect. And looking at  
9 what Mr. Bone did, I believe he made a number of  
10 mistakes.

11           Q. (By Mr. Mitchell) So, Dr. Leonard, what's your  
12 bottom-line opinion?

13           MR. MITCHELL: And we can turn to Slide  
14 10.

15           A. Well, my bottom-line opinion, again, is if you  
16 look at what choices the industry had back when the  
17 standard was set and the -- they had very good  
18 alternatives to Ericsson's technologies.

19           At the most it would have cost a million  
20 dollars more to implement those alternatives instead of  
21 Ericsson's technologies.

22           And in that case, there's just simply no way  
23 that the industry would have paid a royalty more than  
24 about a million dollars; and so that, therefore, is the  
25 appropriate RAND rate for this case.

1 Q. Thank you, Dr. Leonard.

2 MR. MITCHELL: Pass the witness.

3 THE COURT: All right. Cross-exam.

4 And let me inquire, Mr. Campbell, how  
5 long you would anticipate your cross will take.

6 MR. CAMPBELL: Five to 10 minutes.

7 THE COURT: All right. And let me  
8 inquire of Defendants what additional witnesses you  
9 have.

10 MR. MITCHELL: Your Honor, we have one  
11 additional witness, Dr. -- we'd call Dr. Ray Perryman,  
12 and I figure that's about 25 or 30 minutes.

13 THE COURT: All right.

14 And then will Plaintiff have witnesses?

15 MR. CAWLEY: One, Your Honor; be Mr.  
16 Brismark again, and I think I can put him on in 10  
17 minutes.

18 MR. CAMPBELL: And Dr. Nettles.

19 MR. CAWLEY: Oh, and Dr. Nettles, that's  
20 right. And how long will he be?

21 MR. CAMPBELL: Dr. Nettles will probably  
22 be 10 minutes and Mr. Bone maybe five.

23 THE COURT: Okay. All right. Okay.

24 Thank you.

25 All right. You may proceed, Counsel.

1 MR. CAMPBELL: Thank you, Your Honor.

2 Can we get his slide? Can you give me

3 Slide 3?

4 CROSS-EXAMINATION

5 BY MR. CAMPBELL:

6 Q. Good afternoon, Dr. Leonard.

7 A. Good afternoon.

8 Q. I want to go back to your Slide 3 here and

9 look at the fork in the road.

10 The bottom fork in the road, do you know

11 there's no patents on those non-infringing alternatives?

12 A. I'm certainly not aware of any patents.

13 Q. That's -- really wasn't my question. Do you

14 know there's no patents on those non-infringing

15 alternatives?

16 A. I think it's very hard to say with absolute  
17 certainty unless you have looked at every patent in the  
18 world that there's no patents, but I've certainly not  
19 heard that there are any patents on those alternatives.

20 Q. All right. Well, let me ask it differently.

21 Did you look to see if there were any patents  
22 on those alternative?

23 A. That's certainly something that I discussed  
24 with Dr. Heegard when we were talking about this, and --  
25 and he wasn't aware of any.

1 Q. Well, you heard Dr. Heegard just testify he  
2 didn't look for any, correct?

3 A. Well, I -- but I think he's also a very  
4 knowledgeable person in this industry who would be aware  
5 of -- of these kind of patents if there were.

6 There were -- a lot of these things we're  
7 talking about were prior art or they're things that are  
8 done right now. So, if there were some patents, they  
9 may have already come out of the woodwork.

10 Q. Okay. So you didn't do a search either; is  
11 that correct, sir?

12 A. I did not do a technical search, that's  
13 correct.

14 Q. Okay. So you don't know if there would be a  
15 toll on the bottom part of that road, do you, sir?

16 A. Well, I can't really say more than I just  
17 said, which is I'm certainly not aware that there are  
18 any patents.

19 Q. Okay. Now --

20 A. And, by the way, if there were -- and there  
21 were people in the standard setting organization, then,  
22 of course, they would also be subject to a RAND  
23 commitment.

24 Q. Now you're relying on others for their  
25 opinions on the qualities of the non-infringing

1 alternatives, correct, sir?

2 A. What do you mean by "quality"?

3 Q. Well, you've got two forks in the road here,  
4 and they both end up in the same place. You don't know  
5 that this system would end up in the same place in terms  
6 of performance or quality, do you, sir?

7 A. Well, I think we do because -- well, first of  
8 all, in speaking to Dr. Heegard and his testimony just  
9 now, but also just looking -- since a lot of those  
10 alternatives are things -- for instance, compressed  
11 BlockAck -- that are already done and things seem to be  
12 working fine, I think that's a pretty good indication  
13 that -- you know, it's a market test. They're working.  
14 They're working fine.

15 It's the same thing, for instance, with the --  
16 the alternative related to Intel versus the other  
17 suppliers. All the other suppliers are quite successful  
18 in the marketplace, and so Intel could have done what  
19 they did.

20 Q. Sir, you're not a technical expert, correct?

21 A. Those -- those are market outcomes, though.

22 Q. Sir, my question to you is, you're not a  
23 technical expert, correct?

24 A. I'm not a technical expert, that's fair.

25 Q. You're not qualified to make technical

1 evaluations of non-infringing alternatives, are you?

2 A. Sure. That's why I talked to Dr. Heegard.

3 Q. Now, you would agree with me, correct, that  
4 the 802.11n standard was ratified in September 2009?

5 A. That's correct.

6 Q. Okay. Now, I want to see if you agree with a  
7 couple of things that Dr. Perryman said in his report.

8 He said that a draft standard is compiled and  
9 may undergo many revisions before being finalized.

10 Do you agree with that?

11 A. I mean, as a general statement, but since I  
12 think you have the word "may" in there, it's -- I think  
13 that's correct.

14 Q. Okay. He also said that because standards are  
15 living documents, that they would be modified or updated  
16 after publication.

17 Do you agree with that?

18 A. You know, again, in principle, but I think  
19 it's widely agreed that making major changes would be  
20 incredibly disruptive.

21 Q. So is that a yes or a no?

22 A. It's a sort of.

23 Q. Sort of. Okay.

24 Well, I'm just not getting yes or no answers  
25 to any questions today.

1               Okay. But you agree that -- you understand --  
2 or do you understand that NETGEAR was given notice of  
3 Ericsson's patents prior to the ratification of the  
4 802.11n standard? Are you aware of that?

5               A. Yes, I believe that's correct.

6               Q. Okay. You're aware that Ericsson's entered  
7 into licenses with Option, Ascom, and RIM all before  
8 ratification of the 802.11n standard, correct, sir?

9               A. Yes. I'll point out that all those licenses,  
10 I believe, covered "g" as well, which, of course, the  
11 industry was locked into at the point those licenses  
12 were signed.

13               Q. I just can't get yes or no answers, can I?  
14 The answer was "yes," sir?

15               A. Sure. I'm -- yes.

16               Q. Thank you.

17               Now, you understand that the negotiations with  
18 Buffalo started prior to 802.11n being ratified,  
19 correct, sir?

20               A. I think that's correct, yes.

21               Q. Now, there's been no evidence that Option,  
22 Ascom, RIM, Buffalo, or NETGEAR have complained, or  
23 complained at the time, to the IEEE that Ericsson's RAND  
24 rate was too high, correct, sir?

25               A. I don't think I've seen anything to that

1 effect.

2 Q. Okay. No evidence that Option, Ascom, RIM,  
3 Buffalo, or NETGEAR asked the IEEE to change the  
4 standard, correct, sir?

5 A. I don't think I've seen anything along those  
6 lines.

7 Q. Okay. Now, I just want to be clear. On the  
8 licenses that Ericsson has, is it your opinion that  
9 those licenses include the holdup value or have the  
10 potential to include holdup value?

11 A. They include holdup value.

12 Q. Okay. And how much of the value is holdup  
13 value?

14 A. The vast majority.

15 So if you take my lump-sum RAND royalty rate  
16 and turn it into a cents per unit, it's, you know,  
17 something on the order of 1 to 2 cents at most.

18 So if you take Mr. Bone's royalty rate of  
19 50 cents and subtract the 1 to 2 cents, the remainder of  
20 that is holdup value.

21 Q. Well, let me be clear. I'm not asking about  
22 Mr. Bone's rate; I'm asking about the existing licenses.

23 You understand there's an existing license  
24 with Hewlett-Packard, RIM, Buffalo, Option, Ascom,  
25 Sonim. You understand that, correct, sir?

1 A. Yes.

2 Q. Do those existing licenses include holdup  
3 value or the potential for holdup value?

4 A. They -- the ones that I've seen that Mr. Bone  
5 analyzed and came up with a per-unit royalty, those are  
6 all well above 1 to 2 cents, and so that would then  
7 include holdup value.

8 Q. Okay. So every -- any value in the effective  
9 royalty above 1 to 2 cents, in your opinion, is holdup  
10 value; is that correct?

11 A. If it's been properly attributed to the  
12 patents-in-suit, yes.

13 Q. Okay. Now, have you seen any evidence or any  
14 of these licensees have alleged they've been held up?

15 Yes or no, sir?

16 A. Well, I haven't seen -- well, I don't know.  
17 I'm not sure about RIM, but -- who were the others?

18 Q. Hewlett-Packard, RIM twice, Buffalo, Ascom,  
19 Option, Sonim. Have you seen any evidence that any of  
20 those licensees allege they were held up?

21 A. I haven't -- I don't think I've seen something  
22 like that one way or the other.

23 Q. Okay. You relied on Mr. Cho for a lot of your  
24 analysis, correct, sir?

25 A. Really I'd say it for the -- the cost-related

1 information.

2 Q. Okay. And will we hear from Mr. Cho today?

3 A. I don't think so, but I'm not in charge of the  
4 witness list.

5 Q. Okay.

6 MR. CAMPBELL: Your Honor, I have about  
7 three or four questions that, unfortunately, relate to  
8 one of the license agreements, and I need to seal the  
9 courtroom, please.

10 THE COURT: All right. The courtroom  
11 will be sealed. If you're not covered by the protective  
12 order that has been entered in this case or a party to  
13 the protective order, you will need to leave the  
14 courtroom at this time and remain outside until we  
15 unseal the courtroom.

16 So please excuse yourself if you are not  
17 a party to or covered by the protective order in this  
18 case. If there's any doubt in your mind, please leave  
19 the courtroom.

20 (Pause in proceedings.)

21 (Courtroom sealed.)

22 (This is Sealed Portion No. 9 and  
23 filed under separate cover.)

24 (Courtroom unsealed.)

25 (Pause in proceedings.)

1                   MR. MITCHELL: Your Honor, may  
2 Dr. Leonard be excused?

3                   THE COURT: Excuse me?

4                   MR. MITCHELL: May Dr. Leonard be  
5 excused?

6                   THE COURT: Yes, he may.

7                   You may proceed.

8                   MR. ALPER: Thank you, Your Honor.

9                   RAY PERRYMAN, Ph.D., DEFENDANTS' WITNESS,  
10                   PREVIOUSLY SWORN

11                   DIRECT EXAMINATION

12 BY MR. ALPER:

13                   Q. Good afternoon, Dr. Perryman.

14                   A. Good afternoon.

15                   Q. Thank you for joining us. We --

16                   MR. ALPER: If we could display Slide No.  
17 2, please, we'll get started.

18                   Q. (By Mr. Alper) We heard a bit earlier in the  
19 case and from Dr. Leonard about the issues of patent  
20 holdup and lock-in in connection with standard-setting  
21 organizations and licensing of standard essential  
22 patents.

23                   How does that relate to RAND licensing from  
24 your perspective, Dr. Perryman?

25                   A. Well, the whole idea behind RAND licensing is

1 to create interoperability where no matter what brand  
2 you're on, where your location is, you can use the  
3 various products.

4 In the case in particular of Wi-Fi, to do it  
5 at a very low cost, and that's done through the whole  
6 process of letters of assurance, people agreeing to  
7 license at reasonable rates.

8 And so when you have someone come along later  
9 and say, well, I want substantially more money than  
10 what's regarded as reasonable, that sort of really  
11 undermines the entire process.

12 Q. And RAND is the answer to that problem?

13 A. RAND is the answer, yes, sir. It's what --  
14 it's what the standards associations have tried to do to  
15 address it.

16 Q. And did you calculate a RAND rate for  
17 Ericsson's 802.11 portfolio in this case?

18 A. I did, yes, sir.

19 Q. Now, what are some of our goals that we want  
20 to try to achieve when we're calculating a RAND rate in  
21 this context?

22 A. Well, we want to properly value the  
23 technology, based on its incremental contribution to  
24 the -- to the standard and to the products that we made  
25 from the standard, and do that in a way that doesn't

1 include the holdup value that was just discussed.

2           We want to go back in time to the point just  
3 before this fork in the road and say, at that point in  
4 time, what was the technology worth.

5           THE COURT: All right. Counsel, the  
6 Court needs to take a recess for about 15 minutes, so  
7 we'll be in recess until 10 minutes till 5:00.

8           MR. ALPER: Thank you, Your Honor.

9           COURT SECURITY OFFICER: All rise.

10           (Recess.)

11           (Jury out.)

12           COURT SECURITY OFFICER: All rise.

13           THE COURT: Please be seated.

14           All right, Counsel. You may proceed.

15           MR. ALPER: Thank you very much, Your  
16 Honor.

17           Q. (By Mr. Alper) Dr. Perryman, when we left off,  
18 we were talking about some of the goals that you had in  
19 mind when you were calculating your RAND royalty. Is  
20 what -- does one of those goals have to do with putting  
21 the parties back in the position they would have been in  
22 at the time of standardization?

23           A. Exactly. Yes, sir.

24           Q. And why is that?

25           A. Well, that -- that's the whole idea is you

1 want -- you want people to be properly compensated for  
2 the technology and not for any extra value that's  
3 obtained just because it's included in the standard.

4           And a way to do that is to determine what it  
5 was worth just before the standard was issued.

6           Q. And is that extra value, is that referred to  
7 as lock-in value or patent hold-up value?

8           A. It is, yes, sir.

9           Q. And you're contrasting that with the actual  
10 value of the technology?

11          A. That's correct, yes, sir.

12          Q. Thank you, sir.

13           Now, yesterday when you testified, you walked  
14 through the Georgia-Pacific Factors and did a  
15 Georgia-Pacific Analysis?

16          A. Yes, sir, I did.

17          Q. Now, how does the Georgia-Pacific Analysis,  
18 from an economist's perspective, relate to the RAND  
19 analysis?

20          A. Well, they have a lot of similarities, but  
21 there's also some pretty important differences. There's  
22 some parts of Georgia-Pacific that are just different in  
23 RAND.

24          Q. Okay. Well, I'm going to present a couple of  
25 the factors to you and ask you from an economics

1 perspective how those relate to RAND so --

2 A. Yes, sir.

3 Q. So, for instance, Factor 4 concerns the  
4 licensor's established policy and marketing program to  
5 maintain its patent monopoly. Are you familiar with  
6 that factor?

7 A. Yes, sir, I am.

8 Q. Now, is that factor applicable in the RAND  
9 context?

10 A. It's really not. Once -- once you've given a  
11 letter of assurance and you're participating in a  
12 standard, you've given up the -- the patent monopoly, so  
13 to speak. You've agreed to license it on reasonable and  
14 non-discriminatory terms to anyone that wants a license.

15 Q. Thank you.

16 Now let's take a look at Factor 5. Factor 5  
17 involves the commercial relationship between the  
18 licensor and the licensee such as whether they are  
19 competitors.

20 Now, how does that factor relate to the RAND  
21 analysis?

22 A. Well, in that factor, typically if you have a  
23 situation where -- where you have competitors licensing  
24 one another, you may even have a lost profits type  
25 analysis because it's cannibalizing each other's sales

1 and that sort of thing.

2 In -- in a RAND analysis, basically you've  
3 agreed to license everyone no matter what their station;  
4 competitor, supplier, whatever the case may be. You  
5 have agreed to license anyone who wants a license on  
6 fair and reasonable terms.

7 Q. So Factor 5 would not be applicable in the  
8 RAND context?

9 A. That's correct, yes, sir.

10 Q. Okay. And let's take a look at Factor 1.  
11 Factor 1 deals with the royalties received by the patent  
12 holder or the licensor. Are you familiar with that  
13 factor?

14 A. Yes, sir, I am.

15 Q. And you talked about that yesterday in your  
16 testimony?

17 A. I did, yes, sir.

18 Q. Okay. Now, is that factor relevant in the  
19 RAND context, and if so, how is it relevant?

20 A. Well, it can be relevant. If you have  
21 licenses that where both parties clearly knew there was  
22 a RAND agreement in place and you were negotiating under  
23 RAND terms, then under that situation they could be  
24 informative. If -- if you're not in that situation,  
25 they're not informative.

1       Q.    So when you're looking at Factor 1 or you're  
2 looking at licenses, you're looking for a clear  
3 understanding of the parties that a RAND obligation  
4 existed when they're entering into negotiations?

5       A.    That's correct, yes, sir.

6       Q.    Thank you very much.

7               Now, we heard Mr. Bone testify yesterday in  
8 connection with his damages analysis. Now, did he  
9 perform an independent RAND analysis?

10       A.    He did not, no, sir.

11       Q.    Okay. And I think we heard testimony to that  
12 effect yesterday?

13       A.    Yes, sir.

14       Q.    All right. Now, did he rely on the  
15 Georgia-Pacific Factors?

16       A.    He did, yes, sir.

17       Q.    And was that an unmodified, traditional  
18 Georgia-Pacific Analysis?

19       A.    Yes, sir, it was.

20       Q.    Now, as a result of that -- of that, can we  
21 rely in any way on Mr. Bone's analysis when it comes to  
22 determining a RAND rate?

23       A.    No, sir. He used some licenses that have  
24 rates like a dollar and \$1.20, at least by his  
25 calculations, which is well above even what was

1 published to be the RAND rate here.

2 Q. Now, based on your review of Mr. Bone's report  
3 and his testimony in court and his deposition, have you  
4 seen any evidence that Mr. Bone attempted to establish  
5 that the parties to the licenses that he's relying on  
6 clearly understood their RAND obligations when entering  
7 into negotiations in executing those licenses?

8 A. No, sir, I have not.

9 Q. Thank you.

10 Let's take a step back and talk about where  
11 RAND obligations -- the RAND obligations in this case  
12 arise from.

13 Can you tell us where those come from in case?

14 A. Yes, sir. As has been said before, Ericsson  
15 entered two letters of assurance, one in 2003, one in  
16 2011, that -- essentially the language is very similar,  
17 that agreed to license under reasonable rates to an  
18 unrestricted number of applicants under reasonable terms  
19 and free of any unfair discrimination.

20 Q. Okay. And have you seen -- in your review of  
21 the evidence in this case, have you seen any evidence  
22 from Ericsson confirming that it -- its belief that it  
23 has a contractual obligation as a result of these  
24 letters of assurance?

25 A. Yes, sir, I have.

1           Q.     If we can go to the next slide, you can tell  
2 us about that.

3           A.     Yes, sir. This exhibit is an Ericsson  
4 document, and it says in it a RAND commitment is a  
5 contractual undertaking. And then in deposition  
6 testimony, Mr. Brismark was asked:

7                 You see where it reads a RAND commitment is a  
8 contractual understanding?

9                 He said yes.

10                He was asked if he agreed with that.

11                And he also said yes.

12           Q.     Thank you very much, sir.

13                 Now let's turn back to the calculation of the  
14 reasonable RAND royalty in this case. Can you -- can  
15 you walk us through your methodology?

16           A.     Yes, sir, I can.

17                 What I was seeking to do was get down to  
18 the -- what is the value of the technology itself. And  
19 to do that, you have to apportion the technology based  
20 on all the other technology that's out there to  
21 determine the appropriate amount to allocate.

22                 In doing that, you have to consider the -- the  
23 risk of royalty stacking. And so you have to look at  
24 proportionality in the process.

25                 As we've said before, go back to the time just

1 before that fork in the road when -- when the -- before  
2 the standard's adopted and then -- and then from there  
3 just to try to perform the calculations appropriately.

4 Q. Thank you very much.

5 Well, I'd like to briefly walk through some of  
6 these steps and -- and I believe you did some -- you had  
7 some testimony yesterday, so we'll -- we'll try not to  
8 duplicate that.

9 First in terms of apportionment, what was the  
10 unit that stood -- what is the unit that's to be  
11 licensed in this case?

12 A. The unit to be licensed in this case is a  
13 Wi-Fi chip.

14 Q. And -- and what evidence did you rely on in  
15 coming to that conclusion?

16 A. Well, all the reports, depositions, technical  
17 experts I could talk to, every -- testimony I've  
18 listened to in court from both sides, everyone has  
19 agreed that the technology resides on the chip.

20 Q. Okay. Now, in terms of apportioning the value  
21 of the 802.11 and the 802.11n in comparison to all of  
22 the technologies on these chips, what -- what pro --  
23 what portion did you arrive at?

24 A. Well, I used 35 percent for the proportion  
25 that was 802.11n on the chip, and 17.5 percent for

1 802. -- or -- I'm sorry -- for 802.11 in its entirety,  
2 35 percent; for 802.11n 17.5 percent.

3                   We just heard Mr. Shoemake -- Dr. Shoemake  
4 talk about the analysis he went through to help me and  
5 walk me through to get to those numbers.

6           Q. And you base those conclusions on Dr.  
7 Shoemake's analysis?

8           A. I did, yes, sir.

9           Q. Okay. Thank you.

10               Now let's skip over to the next step in the  
11 analysis which you referred to as proportionality. Can  
12 you tell us what is a proportionality analysis?

13           A. Well, it's where you try to figure out once  
14 you -- once you figured out the base to start from, you  
15 need to figure out what percentage of all the technology  
16 that's out there rests with the -- the patents that  
17 you're talking about.

18           Q. Okay. And -- and how do you do -- go about  
19 doing that?

20           A. Well, you -- you try to look for indicia that  
21 you can find that will give you an idea. Obviously it's  
22 an imperfect process, but you try to get an idea of the  
23 percentage that is appropriately allocated. And when I  
24 do that type of analysis, I try to make assumptions in  
25 favor of -- of in this case the -- Ericsson.

1       Q.    And so you're going to -- in order to perform  
2 a proportionality analysis, you're going to go out and  
3 you're going to try to figure out what's Ericsson's  
4 share of the total number of patents out there on  
5 802.11?

6       A.    Yes, sir, that's correct.

7       Q.    Okay. Now, if we go to the next slide, what  
8 can happen if we do not perform a proportionality  
9 analysis?

10      A.    Well, if you don't perform a proportionality  
11 analysis very quickly, you can get to a point where  
12 the -- where the royalty doesn't make sense in relation  
13 to the price of the product.

14           Example here, very simple example. We know  
15 there are thousands of -- of pieces of technology in an  
16 802.11 chip. We know they sell for, on average, \$2.41.

17           If even 10 people ask for 50 cents, you're at  
18 \$5.00; a hundred people ask for 50 cents, you're at  
19 \$50.00. So very quickly you get to a point where you've  
20 exhausted the entire price of the chip, and ultimately  
21 to a point it's not feasible to make the chip anymore.

22      Q.    All right. From an economics perspective,  
23 what happens if the cost of a royalty is double the  
24 price of a chip? For instance, in the example that you  
25 gave, if there are merely 10 patent holders?

1       A. Well, Economics 101 tells that you produce  
2 until marginal revenue equals marginal cost; and if  
3 marginal revenue is \$2.41 and marginal costs for  
4 technology licensing alone is \$5.00, you don't make the  
5 product.

6       Q. Now in order to perform a proportionality  
7 analysis, do you need to know precisely the number of  
8 essential patents that are out there?

9       A. Oh, you can get close enough without knowing  
10 it precisely, because as has been talked about -- about  
11 by the technical experts, there's a lot of technology  
12 here. I don't think anyone knows exactly how many  
13 patents are in it.

14       Q. And what evidence did you rely on for your  
15 proportionality analysis?

16       A. Well, several things. With regard to 802.11n  
17 I -- some of them I talked about yesterday. I -- I  
18 looked at the Sunlight research report which identified  
19 about 4,017 patents.

20           I also looked at the report I talked about  
21 yesterday, the TechIPm report. It identified 1484  
22 related patents only for the top 12 patent holders. So  
23 obviously there's a lot more, but just the top 12.

24           Dr. Shoemake analyzed the Sunlight report and  
25 said he felt like there were well over 3000, from

1 analyzing the Sunlight report. Then he did his own  
2 independent analysis and came up with over 4600.

3 Q. Thank you, sir.

4 Now let's talk about Ericsson's share of the  
5 802.11n-related patents out there.

6 A. Yes, sir.

7 Q. Can you tell us about your analysis of  
8 Ericsson's share in that context?

9 A. Yes, sir. Several things I was -- I was able  
10 to look at. Some of them we talked about yesterday.

11 One of them was the share of the letters of  
12 assurance and that turned out to be one out of 32, and  
13 so that was about 3.1 percent. I took a very  
14 conservative approach to estimating the number of  
15 patents by taking the average number in the letters that  
16 actually gave a list.

17 And the reason I say conservative is I applied  
18 that to all the letters which meant I -- it was about  
19 six patents, which meant I attributed six patents to  
20 Intel, six patents to Broadcom. We know they have  
21 dozens, scores, if not hundreds of patents. So I know  
22 it was very conservative. But looking at that with the  
23 claimed patents by Ericsson, I came up with a share of  
24 3.43 percent.

25 The Sunlight report attributes a lot more

1   patents that are related somehow to 802.11 to Ericsson,  
2   but it also finds a lot more patents, and Ericsson's  
3   percentage in that context was the 2.27 percent.

4           The TechIPm report, I think I mentioned the  
5   way I did that yesterday, even though they only claim  
6   eight patents I gave them the benefit of the doubt and  
7   said TI came in 12th with 44 patents. So let's say what  
8   if Ericsson had 43; in other words, if they just missed  
9   being on the list, which is the -- the maximum number  
10   they could have attributed to Ericsson, and with that  
11   came up with a percentage of 2.9 percent.

12           And then I was aware of an expert that -- in a  
13   case in Germany that had determined for Ericsson that --  
14   an expert retained by Ericsson that their percentage of  
15   802.11 technology was somewhere between 3 and 5 percent.

16           If you look at just patents, it was about 3.9  
17   percent. If you look at patents and applications, it  
18   was about 3.1 percent. So, again, everything's just  
19   kind of lining up in the same pretty tight range here.

20           Q. And so Ericsson's own expert in litigation --  
21   in another litigation determined that Ericsson had 3.1  
22   percent of the patents and patent applications in  
23   802.11n?

24           A. That's correct, yes, sir.

25           Q. And 3.9 percent of just the patents?

1 A. Yes, sir.

2 Q. Thank you. Now, did you calculate Ericsson's  
3 share of 802.11 patents generally --

4 A. I did.

5 Q. -- not just "n" but 802.11?

6 A. I did, yes, sir.

7 Q. Okay. And if we can go to the next slide, can  
8 you tell us about that calculation?

9 A. Yes, sir. I think we've got the wrong slide  
10 up there.

11 But the -- Dr. Gibson in his analysis, he went  
12 through and looked at 802.11 and looked at all the  
13 pieces of it that might potentially be impacted by any  
14 technology Ericsson was claiming and came up with 1.6  
15 percent. And so that was -- that was one data point I  
16 had was 1.6 percent. There's an illustration of it  
17 here.

18 I then repeated the analysis I did with the  
19 letters of assurance and the patents that I calculated  
20 in my very conservative way using the whole 802.11  
21 portfolio. For that there were 274 letters of assurance  
22 of which Ericsson had two, so that's a little less than  
23 1 percent. And then there were 933 patents I could  
24 identify that way, and Ericsson has claimed 18. So  
25 that's like dead on 2 percent.

1                   So I had one number around 1 percent, one  
2 number around 1.6 percent, one number around 2 percent,  
3 and so I used 2 percent in order to be conservative.

4                   Q.    Thank you.

5                   Now, before we get to the actual RAND  
6 calculation, did you also consider the ex-ante value of  
7 the patented features?

8                   A.    Yes, sir.

9                   Q.    Okay. And can you describe your analysis  
10 there?

11                  A.    Well, when you -- when you start talking about  
12 the ex-ante value of the patented features, that's when  
13 you can begin to talk about non-infringing alternatives.

14                  And obviously, we heard Dr. Leonard talk quite  
15 a bit about that.

16                  In any analysis, I didn't penalize Ericsson  
17 for the fact there were non-infringing alternatives  
18 available, but I did -- I was aware of it and it was a  
19 part of my analysis.

20                  Q.    Okay. Thank you. And in -- in considering  
21 the ex-ante value of -- of the -- of the patented  
22 features, you looked at non-infringing alternatives?

23                  A.    Yes, sir.

24                  Q.    And you considered the testimony of Dr.  
25 Shoemake, Dr. Heegard, and -- and considered

1 Dr. Leonard's testimony as well?

2 A. I did, yes, sir.

3 Q. Okay. And that acted as a check on your  
4 proportionality analysis?

5 A. Yes, sir, it did.

6 Q. And is it consistent with your proportionality  
7 analysis?

8 A. It's very consistent, yes, sir.

9 Q. All right. Thank you very much.

10 Well, let's get to the calculation of your  
11 royalty rates.

12 MR. ALPER: If we'll go to slide 12,  
13 please.

14 Q. (By Mr. Alper) Can you please walk us through  
15 the three calculations that you made in this case when  
16 it -- in connection with the RAND rate?

17 A. Yes, sir. And I'll -- I'll start with just --  
18 in the order they're on here. All of 802.11. Average  
19 cost of a chip around 2.41. The 35 percent allocation  
20 from the chip down to 802.11, as we heard from Dr.  
21 Shoemake. And then the 2 percent that I just described  
22 as Ericsson's share of that, gives me 1.7 percent for  
23 that royalty.

24 I then did one for the entire 802.11n  
25 portfolio which again uses a 2.41 chip price. This

1 times goes down to 17.5 cents -- I'm sorry -- 17.5  
2 percent because of the additional allocation down to  
3 "n". Again, relying on Dr. Shoemake saying it would be  
4 at most that much.

5 And then I used a 3 percent number we just  
6 discussed. That one came out to 1.3 cents.

7 And then finally, the one that we talked about  
8 yesterday at some length, I used the 2.41 chip price,  
9 the 17.5 percent that was the 802.11n portion of the  
10 chip; and then brought the rate down from 3 percent to  
11 2.25 percent just to account for the fact that all of  
12 Ericsson's 802.11n patents are not asserted here.

13 And in all cases, of course, by doing the  
14 whole cost of the chip, I made the assumption that all  
15 of the money could be allocated to paying -- for  
16 technology, which is a pretty conservative assumption in  
17 itself.

18 Put all that together and came up with the 0.9  
19 cents that we discussed at some length yesterday.

20 Q. Thank you very much.

21 Now, how much is Ericsson seeking in this  
22 case?

23 A. 50 cents.

24 Q. Now, is that amount blatantly unreasonable in  
25 relation to the RAND royalty rates that you calculated

1 in this case?

2 A. Yes, sir.

3 Q. Okay. And is it, from an economist's  
4 perspective, a breach of Ericsson's RAND obligations to  
5 seek a rate that is 50 cents per unit?

6 A. Economically it certainly is. The only way  
7 you can get to a rate like that is with a lot of hold-up  
8 value.

9 Q. Now, is it your understanding that the 50  
10 cents per unit is what Ericsson has purported to offer  
11 to the Defendants and Intel in this case?

12 A. Yes, sir.

13 Q. Okay. Now I'd like to switch gears briefly  
14 from the calculation of a reasonable rate to one of the  
15 other requirements of RAND that has to do with no  
16 discrimination.

17 A. Yes, sir.

18 Q. And I'd like to know, as an economist, what  
19 are the things that are forbidden by the no  
20 discrimination part of RAND?

21 A. Well, the biggest one is that -- that you  
22 can't refuse to license people, that you have to give  
23 everyone that requests a license, a license, and also  
24 under similar terms. You could certainly have a  
25 quantity discount if you had a huge one versus a small

1 one or something like that that made economic sense, but  
2 basically you're giving everyone the same terms.

3 Q. Okay. Now, did you see any evidence in your  
4 review of the evidence in this case from Ericsson  
5 confirming that obligation?

6 A. Yes, sir, I do.

7 Q. Okay. Let's take a look at the next slide.

8 And what do we see here, Dr. Perryman?

9 A. This is from a -- a brand -- or Ericsson  
10 pat -- licensing presentation, and one thing it says,  
11 there's no blocking patents, which means you can't put  
12 that toll sign there once the standard's already in  
13 place basically.

14 It says the overall royalty has to be  
15 reasonable cumulatively, taking into account all the  
16 technology. And it also says you're waiving the  
17 monopoly that the -- that a patent gives you in order to  
18 license it on RAND terms.

19 Q. And this in DX 78, this is Ericsson saying  
20 this?

21 A. That's correct, yes, sir.

22 Q. And did you --

23 A. It's in this document.

24 Q. And did you review any testimony from any  
25 Ericsson licensing personnel that also confirmed that --

1 these obligations?

2 A. Yes, sir, I did.

3 MR. ALPER: And if we can take a look at  
4 that on the next slide, please. Actually, no. If you  
5 could skip to 15. Yes. Thank you.

6 Q. (By Mr. Alper) What do we see here?

7 A. Well, their chief intellectual property  
8 officer, Mr. Alfalahi, testified that -- he was asked:  
9 The RAND rate needs to be non-discriminatory, right?

10 He said, That's correct. He was asked, What  
11 does that mean?

12 And it says: It's important to offer a  
13 license which is fair and reasonable to the players in  
14 the industry without discriminating any player.

15 And then he was asked: Including chipset  
16 makers, right?

17 He says: Any player.

18 And then he was asked again: Including  
19 chipset makers?

20 And he said: Yes.

21 Q. So this is Ericsson's chief of intellectual  
22 property, right?

23 A. Yes, sir.

24 Q. And he's saying that it would be a violation  
25 of Ericsson's RAND obligations to exclude chipset

1 manufacturers?

2 A. Yes, sir.

3 Q. Okay. Now, these are what Ericsson's  
4 obligations are. What -- what is their policy when it  
5 actually comes to dealing with the RAND obligations?

6 A. Well, the policy has been, until very  
7 recently, that they would not license to chip makers.

8 Q. Okay. And did you review any testimony from  
9 Ericsson in this case that confirmed that?

10 A. Yes, sir. Again, Mr. Brismark, who's with us,  
11 was asked: As a result, a component supplier of a  
12 component implementing a standard could not get a  
13 license from Ericsson?

14 And he said, Yes. So he was basically saying  
15 the component manufacturers, which in this case would be  
16 the chip manufacturers, would not be allowed to get a  
17 license.

18 Q. Okay. Now, on -- what was Ericsson's reason  
19 for wanting to block the chip makers from access to  
20 essential IP?

21 A. Well, one of the things that they testified to  
22 and I've seen in documents is simply that -- that they  
23 would get more money if they could capture some of the  
24 value from the products that were not -- that were  
25 bigger -- bigger products, had more stuff in them. They

1 could capture some of that value rather than just the  
2 value of their technology.

3 Q. So we put up some testimony from Mr. Forslund.

4 Can you tell us how that relates to what you  
5 just testified to?

6 A. Yes, sir. He was asked if one of the major  
7 advantages of Ericsson's policy was that it could demand  
8 a higher royalty income because these products are more  
9 expensive than, for example, Wi-Fi chips; is that right?

10 And he concurred that was right.

11 Q. So Ericsson's goal in refusing to deal with  
12 chip makers is to make more money by licensing end  
13 products; is that right?

14 A. Certainly one of their goals from what I've  
15 seen, yes, sir.

16 Q. Now tell me, is that a legitimate economic  
17 justification for blocking chip makers from access to  
18 essential IP?

19 A. No, sir, it's not.

20 Q. Okay. And why is that?

21 A. Well, again, the whole concept of RAND letters  
22 of assurance and trying to get standards in place is  
23 that that sort of thing doesn't happen. You don't --  
24 you get compensated based on the fair value of your  
25 technology.

1       Q.    And is there a real economic cost associated  
2 with that type of blocking behavior?

3       A.    Oh, absolutely.

4       Q.    And is a "more money" justification consistent  
5 with RAND obligations?

6       A.    No, sir, it's not.

7       Q.    All right. Well, Mr. Forslund was open with  
8 us in deposition in this case, but what does Ericsson  
9 say to the world when it comes to their policy and their  
10 justifications for -- for -- or their -- their approach  
11 to RAND?

12      A.    Well, what they've said to the world is -- is  
13 basically they -- they -- they've had their two letters  
14 of assurance, which used a standard language for the  
15 letters of assurance, and say that they will license  
16 to -- to an unlimited -- unrestricted number of  
17 applicants to anyone that wants a license on fair and  
18 non-discriminatory terms.

19      Q.    Now, I think we heard some testimony about  
20 this earlier today; but I'm just going to ask you, do  
21 these letters of assurance, either the 2003 letter or  
22 the 2011 letter, include any indication limiting  
23 Ericsson's obligations to license just the end products?

24      A.    No, sir.

25      Q.    Okay. And is -- does the public have a right

1 to rely on the -- the words that Ericsson put in its  
2 letters of assurance?

3 A. Yes, sir. That's in every standard RAND  
4 letter.

5 Q. Okay. And I'm going to show you -- I'm just  
6 going to switch over to this real fast and zoom in here.

7 This is from -- this is DX -- PX -- excuse  
8 me -- this is PX 294, Ericsson's 2011 letter of  
9 assurance.

10 And what are we seeing here on the screen?

11 A. Well, paraphrasing, it basically says that by  
12 signing this letter you acknowledge that users and  
13 implementers of the proposed IEEE standard identified in  
14 part C are relying on and will rely on and may seek  
15 enforcement of the terms of this letter of assurance.

16 Q. Right. All right. So we have -- this  
17 includes users and implementers and they get to rely on  
18 Ericsson's letter of assurance?

19 A. Yes, sir.

20 Q. And do users and implementers include the chip  
21 makers?

22 A. Yes, sir.

23 Q. Okay. Thank you very much.

24 Now, we've seen that Ericsson's policy is not  
25 consistent with RAND; it's not in the letters of

1 assurance.

2                   What is Ericsson's justification for trying to  
3 block the chip makers, access to RAND?

4           A. Well, the first one I heard was actually  
5 sitting here in the -- in the trial, and Ms. Petersson  
6 said that a letter that accompanied their 2003 letter  
7 basically has the words "fully compliant" in it. And  
8 her testimony was that a -- that a -- someone who  
9 possessed a license would not be fully compliant unless  
10 they -- unless they -- or their product wouldn't be  
11 fully compliant unless they were actually used by the  
12 consumer.

13           Q. Okay. Now, what -- and this is a -- so this  
14 is a letter from Ericsson accompanying its 2003 letter  
15 of assurance --

16           A. Yes, sir.

17           Q. -- right?

18                   And it includes the words fully -- in fact, it  
19 includes the word "fully" in front of "compliant."

20           A. Yes, sir.

21           Q. And it's based on that word "fully" that  
22 Ms. Petersson testified at trial a couple of days ago  
23 that Ericsson only needs to license products that can  
24 actually be used by the consumer?

25           A. Yes, sir. That was her testimony.

1       Q.    And that was the justification that Ericsson  
2 is raising in order to avoid licensing chip makers?

3       A.    Yes, sir.

4       Q.    Now, I just want to go back.

5            What we -- I think you testified a few moments  
6 ago that what we learned at trial was that the actual  
7 thing that was -- is that at issue in this case, the  
8 actual product that's at issue are the chips, right?

9       A.    Yes, sir.

10      Q.    And did Ericsson rely on the compliant nature  
11 of the chips in order to prove -- or attempt to prove  
12 infringement in this case?

13      A.    Yes, sir, they did.

14      Q.    And did you hear that from Dr. Nettles?

15      A.    Yes, sir, I did.

16      Q.    Okay. So for infringement, Ericsson considers  
17 that it's enough to show that the chips are compliant;  
18 is that right?

19      A.    Yes, sir.

20      Q.    But when it comes to royalties, that's not  
21 enough. What do they have to be, according to Ericsson?

22      A.    A new definition of fully compliant, which now  
23 means products used by consumers.

24      Q.    Okay. So now that's the position now. Did  
25 you see any evidence of what Ericsson actually thought

1 about what its commitment required back 10 years ago  
2 when it submitted it?

3 A. Yes, sir, I did.

4 Q. Okay.

5 MR. ALPER: If we could go to the next  
6 slide, 21.

7 Q. (By Mr. Alper) If you would walk us through  
8 this.

9 A. Yes, sir. This is some testimony from  
10 Mr. Nordolf, who is strategy and business planning.

11 He's actually the individual that signed that  
12 2003 letter.

13 And he was asked: When you were signing the  
14 letter on behalf of Ericsson in 2003, it was not your  
15 intention to exclude chipset suppliers from receiving a  
16 FRAND license to patents that Ericsson considers to be  
17 essential to 802.11?

18 And he said: No. I had no such intention.

19 Q. Okay. So at the time of submitting this 2003  
20 letter, along with its letter of assurance, Ericsson  
21 intended its letter of assurance to apply to everyone,  
22 including chip makers?

23 A. According to the individual that signed the  
24 letter, yes, sir.

25 Q. And now 10 years later, for the first time

1 publicly ever, a couple of days ago, we hear that  
2 actually they didn't intend that; and by putting that  
3 word "fully" in that letter, that means that they're  
4 excluding chip makers?

5 A. That's what was testified, yes, sir.

6 Q. And that's supposed to be sufficient to put  
7 the world on notice of that?

8 A. I'm -- that may be a legal opinion, but that's  
9 the only place I've ever heard it.

10 Q. Okay. But it could have -- could it -- from  
11 your perspective as an economist who's evaluated the  
12 evidence in this case, could Ericsson have been more  
13 clear when it comes to a very important obligation like  
14 a RAND obligation?

15 A. Sure, absolutely.

16 Q. And did you see evidence in this case that  
17 Ericsson thinks that they could have been more clear?

18 A. Yes, sir.

19 Q. Okay.

20 MR. ALPER: And if we take a look at  
21 that. Slide 22, please.

22 A. Yes.

23 Q. (By Mr. Alper) What are we seeing here?

24 A. Yes, sir. This is testimony from Ms. Johns,  
25 who's the director of patent licensing, and she

1 basically was asked: If Ericsson wanted to be clear  
2 with the world that it was excluding a license to chip  
3 makers through the alleged 802.11 patents, it could have  
4 actually just said that, right?

5 And she said: That could have been clearly  
6 stated, yes.

7 Q. Thank you, sir.

8 Now, in the couple of minutes I have left, I  
9 just want to touch on one other aspect of this blocking  
10 concept.

11 A. Yes, sir.

12 Q. Now, we've been talking about refusing to deal  
13 in the context of sitting down at the negotiating table  
14 and just refusing to sit down at the negotiating table  
15 with chip makers; but is there other forms of refusing  
16 to deal, for instance, with the chip makers?

17 A. On, yes, sir. Economically, refusing to deal  
18 is something that has the practical effect of refusing  
19 to deal. It could be an injunction or seeking an  
20 injunction. It could be a rate that's so exorbitant  
21 relative to the price of the product that no one would  
22 realistically be able to -- to negotiate on that basis,  
23 any number of things.

24 Q. So let's talk about that last one for a  
25 second.

1                   You said you could refuse to deal with  
2 someone -- I think what you said is that you could  
3 refuse to deal with someone by charging a rate that's so  
4 high that it's just a non-starter to begin negotiating;  
5 is that right?

6                   A. Exactly. Exactly, yes, sir.

7                   Q. Okay. Now, have you seen any evidence in your  
8 review of the Ericsson documents confirming that that is  
9 just not allowed?

10                  A. Yes, sir. In fact, Ericsson has stated that  
11 very thing.

12                  Q. Okay.

13                   MR. ALPER: Can we go to the next slide,  
14 please?

15                  Q. (By Mr. Alper) And if you'll walk us through  
16 this document. This is DX 97.

17                  A. Yes, sir. Just some highlighted portions,  
18 again, from this Ericsson presentation, and it says --  
19 one thing it says is, anyone that they have to give a  
20 license on FRAND terms to anyone who requests a license,  
21 that it has to be aggregated reasonable terms, which  
22 means reasonable taking into account the overall  
23 licensing situation; and it also has to exhibit  
24 proportionality, which we talked about earlier, which  
25 they define as reflecting the patent holder's proportion

1 of all essential patents.

2 Q. Now, these requirements that Ericsson is  
3 talking about, was that your methodology in this case  
4 for determining RAND?

5 A. Yes, sir, it was.

6 Q. Okay. Now, is Ericsson's 50-cent rate so high  
7 in relation to the chip price that from an economic  
8 perspective, it amounts to a refusal to deal?

9 A. Given all the technology in the chips,  
10 absolutely, yes, sir.

11 Q. And does Ericsson's 50-cent rate capture a  
12 lock-in value or a patent holdup value?

13 A. Virtually all of it is lock-in and patent  
14 holdup.

15 Q. And is that 50-cent rate reasonable?

16 A. No, it is not.

17 Q. Now, was Ericsson asked about whether that  
18 50-cent rate is reasonable in the context of a chip  
19 price?

20 A. Yes, sir, they were.

21 Q. If we go to the next slide, could you tell us  
22 how Ericsson -- Ericsson's chief intellectual property  
23 officer answered that question?

24 A. Well, basically, he didn't answer it. Again,  
25 Mr. Alfallahi was asked: Is it your position from a

1 FRAND perspective -- is it potentially reasonable to  
2 charge a 25- to 50-cent royalty on a 2-dollar product?

5 Q. Okay. Now, Dr. Perryman, as an economist, is  
6 there a yes or no answer to that question?

7           A.     Yes, sir, there is.

8 Q. And what is the answer to that question?

9 A. The answer would be no.

10 Q. And one last question. Do you need to be an  
11 economist to know the answer to that question?

12 A. I certainly wouldn't think so.

13 Q. Thank you.

14 MR. ALPER: I pass the witness.

15 THE COURT: All right.

16 Cross-examination.

17 CROSS-EXAMINATION

18 BY MR. CAMPBELL:

19 Q. Good afternoon, Dr. Perryman.

20 A. Good afternoon, Mr. Campbell.

21 Q. Have you seen any evidence that HP, RIM, and  
22 Buffalo did not know of Ericsson's RAND obligations?

23 A. I don't think I've seen evidence one way or  
24 the other. Mr. Bone's calculations indicated rates that  
25 did not reflect it.

1 Q. You haven't seen any evidence one way or the  
2 other? That was the answer to my question?

3 A. Not that I recall, no, sir.

4 Q. Okay. Now, you understand in this trial,  
5 Intel has said that there are indeed -- they've spent \$2  
6 billion in R&D, correct, sir?

7 A. That sounds about right.

8 Q. Okay.

9 A. Substantial amount of money.

10 Q. And you understand that Intel's 10-Ks say that  
11 their R&D budget includes licensing technology  
12 applicable to their R&D initiatives, correct, sir?

13 A. Yes, sir.

14 Q. Okay. You understand from reviewing the  
15 transcripts of depositions in this case that Broadcom  
16 has testified that the cost of the licenses don't impact  
17 the chips, correct, sir?

18 A. I don't recall that. I'll certainly take your  
19 word for it.

20 MR. CAMPBELL: Well, let's bring it up.

21 Do we have the Hurlston deposition, Page  
22 103 on 5 to 13?

23 Q. (By Mr. Campbell) So Mr. Hurlston was asked:  
24 So you don't believe the cost of these  
25 licenses impact the cost of the chips; is that right?

1                   And he answered: I can tell you definitively,  
2 I've never raised the price of a chip based on  
3 getting -- taking out a patent license.

4                   Do you see that, sir?

5                   A. Yes, sir. I would think -- I would think that  
6 the prices would be set by the market. I would think  
7 that would be the case, yes, sir.

8                   Q. Now, you talked about the Sunlight reports,  
9 and I don't think we talked about the Sunlight reports  
10 yesterday, did we, sir?

11                  A. No, sir.

12                  Q. Okay. But the Sunlight reports don't measure  
13 whether a patent is -- what patents are standard  
14 essential, do they?

15                  A. No, sir. It's 802.11n relevant or related or  
16 something of that nature.

17                  Q. Right. So they expressly say they don't  
18 measure for standard essentiality, correct?

19                  A. Absolutely, yes, sir. I thought I said that  
20 before, yes, sir.

21                  Q. Now, you understand the Sunlight reports, at  
22 the time that 802.11n was ratified, indicated that  
23 Ericsson had more high-value patents than Intel,  
24 correct, sir?

25                  A. Well, I'm aware it said that, but it turns out

1 there was a mistake in the report; that they just  
2 actually made a mistake and attributed a high-value  
3 patent that actually belonged to Intel to Ericsson.

4 Q. But --

5 A. But -- but I'm aware that they did say that,  
6 yes, sir.

7 Q. Those reports aren't very reliable for what  
8 we're doing here, are they?

9 A. Well, they're not going to be perfect. As I  
10 said, you're not going to find a perfect number of  
11 patents or anything like that. Something that goes to  
12 that much effort to collect that much information under  
13 the standards they used, I think is something we can  
14 generally rely on in -- in relation to other sources in  
15 order to give us some useful information.

16 Q. Now, you understand that Dr. Harhoff has  
17 concluded that a FRAND royalty for Acer is 53 cents to  
18 \$1.06, correct, sir?

19 A. I don't recall that.

20 Q. Do you know who Dr. Harhoff is?

21 A. It's not ringing a bell with me right now.

22 Q. Okay. You had it in your slides, this  
23 information from this German litigation. Do you recall  
24 that, sir?

25 A. Yes, sir.

1 Q. But you don't know who wrote that?

2 A. You know, I don't -- I just don't recall. I  
3 read it all at one time. I had copies of it. But I  
4 don't recall the individual that wrote it.

5 Q. You've relied on it, but you didn't look to  
6 see who the individual was that wrote that report?

7 A. Oh, at the time, I knew. I was thinking  
8 Henkel was the person I was thinking about, but it could  
9 be someone else.

10 Q. So you understand that he concluded -- do you  
11 recall now that he concluded a FRAND royalty for Acer  
12 products is 53 cents to \$1.06?

13 A. I would certainly take your representation  
14 yes, sir.

15 Q. Well, I can bring it up. It's DX 166.

16 A. What -- whatever your -- your pleasure is  
17 fine.

18 Q. Okay. It's at Page 12, Paragraph 58. It's  
19 actually in Euros of .4 and .8. Do you know what the  
20 conversion is?

21 A. That's about right, yes, sir.

22 Q. Okay. Now, you understand that Dr. Harhoff  
23 also said in his report that his attention was  
24 restricted to EP and WO patent applications, correct,  
25 sir?

1       A.    I believe that's correct, yes, sir.  It's been  
2 a while since I looked at that report.

3       Q.    Okay.  Well, let's look at Page 20 of DX 166.  
4 Attention was then restricted to EP/WO applications.

5               Do you see that, sir?

6       A.    Yes, sir.

7       Q.    You also understand that Dr. Harhoff stated  
8 that he believed his numbers underestimate the true  
9 share of Ericsson-owned patents in the relevant  
10 portfolio even focusing on EP/WO applications.

11               Do you understand that?

12       A.    I don't recall that.  Again, I have no reason  
13 to doubt you whatsoever.

14       Q.    Okay.  Well, you relied on that report, right,  
15 sir?

16       A.    I was remembering a different expert, but I'll  
17 accept your representation.

18       Q.    Well, you don't believe that's a report you  
19 relied on for the opinion on the share of Ericsson  
20 standard essential patents for 802.11?

21       A.    It was one of the reports in the German  
22 litigation.  That name is starting to ring a bell with  
23 me the more you say it.  But in any case, it was -- it  
24 was Ericsson's expert in that litigation.

25       Q.    I just need -- is that the report you were

1 writing on --

2 A. Yes, sir.

3 Q. -- or is it some other report?

4 A. Yes, sir, I believe it was.

5 Q. Okay. Okay. Now, you understand that

6 Qualcomm and Google have had a similar policy regarding

7 licensing end-user products, correct, sir?

8 A. I am aware of that, yes, sir.

9 Q. Okay.

10 MR. CAMPBELL: If we look at PX 237,

11 that's a letter from Google. And if we zoom in there on

12 the middle paragraph, it says: Google understands that

13 pursuant to IEEE rules, MMI -- MMI is Motorola Mobility,

14 correct, sir?

15 A. Yes, sir.

16 Q. -- is prepared to grant licenses for essential

17 patent claims with a maximum per-unit royalty of 2.25

18 percent of the net selling price for the relevant end

19 product on a go-forward basis, subject to offsets for

20 the value of any cross-licenses or other consideration

21 received from the licensee.

22 You under -- do you see that, sir?

23 A. Yes, sir. I understand that's their stated

24 policy, yes, sir, I do.

25 Q. Okay. And they define net -- net selling

1 price refers to the selling price of a handset, tablet,  
2 or the other consumer device before application of any  
3 discounts or subsidies such as those provided by mobile  
4 operators to end consumers, correct, sir?

5 A. Yes, sir. Again, I am aware -- I'm very aware  
6 that's their stated policy.

7 Q. You understand that Ericsson's FRAND rate is  
8 50 cents; or for some products, it's a half a percent,  
9 correct, sir?

10 A. Yes, sir, I believe that's correct.

11 Q. Okay. And if we look at the Qualcomm  
12 statement at PX 448, Qualcomm states on Page 2 that it  
13 will expect to charge royalties for a license under its  
14 standard essential LTE patents and/or standard essential  
15 WiMax patents for complete end-user subscriber devices;  
16 is that correct, sir?

17 A. I'm aware that's -- that's Qualcomm's policy  
18 with regard to cellular-type technology, yes, sir.

19 Q. It's also for a their WiMax technology,  
20 correct, sir?

21 A. Yes, sir.

22 Q. Now, do you have an opinion as to what the  
23 total aggregate royalty could be for an end-user  
24 product?

25 A. I'd have to have a lot more information than

1 that to answer that question.

2 Q. Well, for 802.11, on an end-user product, like  
3 a router or a laptop, do you have an opinion as to the  
4 total aggregate royalty that could be paid?

5 A. Just on 802.11?

6 Q. Yes.

7 A. You know, I'd have to look at the profit  
8 margins of the companies and a lot of other information  
9 to give you that. Given the low price of the products,  
10 it's going to be a fairly low number, but that's not a  
11 calculation I've made.

12 Q. Okay. All right. Well, if we take a router  
13 that's a hundred dollars, and we say the aggregate  
14 royalty is 10 percent, and Ericsson's share of the  
15 patents is 3 to 5 percent, the royalty on that router  
16 would be 30 to 50 cents a unit, correct, sir?

17 A. Oh, I was talking about with regard to the  
18 chip inside the router. I -- I haven't done an analysis  
19 with regard to the full price of the end products.

20 Q. Okay. Well, was my math right there, if we  
21 walk through that?

22 A. I think your math was right. I'm not sure it  
23 was the right math.

24 Q. I understand you won't agree -- you won't  
25 agree with the analysis, sir. You've got a different

1 view. But the math was correct, wasn't it?

2 A. I believe you did the multiplication  
3 correctly, yes, sir.

4 Q. Okay. I want to look at DX 78, which you  
5 looked at with your counsel on direct, about Ericsson's  
6 position.

7 MR. CAMPBELL: And if we could go to  
8 Page 7.

9 Q. (By Mr. Campbell) Ericsson has indicated that  
10 the FRAND context should be determined through a  
11 bilateral negotiation where the patent holder provides  
12 rationale for its rates.

13 Do you agree with that, sir?

14 A. That sounds reasonable to me. That's one of  
15 the things that goes into a negotiation, yes, sir.

16 Q. Okay. And you understand that Ericsson has  
17 said that's their pros -- is their process and was their  
18 process for negotiating with their current licensees.

19 Do you understand that, sir?

20 A. Yes, sir. They -- they've also said that that  
21 is supposed to be proportional to the totality of the  
22 technology.

23 Q. Well, let's look at Page 9, right? When they  
24 say proportionality, you can't do a straight bean count.  
25 It has to be reasoned.

1                   Do you agree with that, sir?

2           A.    Oh, yes, sir, I agree. I could easily see  
3 where if you had some of the most important patents and  
4 the entire products, you might charge a little bit more  
5 for, and I can certainly understand that.

6           Q.    Okay. And if you look at Page 11, the note  
7 here says: As always, the market determines the price.

8                   Would you agree that that's a way to go?

9           A.    I think I've said that several times.

10          Q.    I think you have, too, sir. And I appreciate  
11 you confirming that.

12                   MR. CAMPBELL: Okay. Your Honor, I hate  
13 to do this, but I have one or two questions that require  
14 me to talk about an Intel license, and I understand  
15 Intel wants the courtroom sealed for that.

16                   THE COURT: All right. The courtroom  
17 will be sealed. If you're not protected by the Court's  
18 protective order, please leave the courtroom at this  
19 time.

20                   (Courtroom sealed.)

21                   (Pause in proceedings.)

22                   (This is Sealed Portion No. 10, and it is  
23 filed under separate cover.)

24                   (Courtroom unsealed.)

25                   (Pause in proceedings.)

1 THE COURT: Please be seated.

2 All right. You may proceed, Mr. Cawley.

3 MR. CAWLEY: Thank you, Your Honor.

4 GUSTAV BRISMARK, PLAINTIFFS' WITNESS, PREVIOUSLY SWORN  
5 DIRECT EXAMINATION

6 BY MR. CAWLEY:

7 Q. Mr. Brismark, good evening.

8 Has Ericsson taken steps to ensure that it  
9 complies with its RAND obligations in licensing its  
10 802.11 patents?

11 A. Yes, we have.

12 Q. How has Ericsson dealt with the issue of  
13 royalty stacking?

14 A. We have -- when we set the rate for Ericsson's  
15 essential patents to 802.11, we also take into  
16 consideration the fact that there are other patent  
17 holders who may have essential patents. So that's the  
18 way we -- we take that into consideration.

19 Q. Now, when you say -- when you've taken it into  
20 consideration, has Ericsson employees, under your  
21 supervision, been asked to do research to try and  
22 determine how many other patent holders may hold patents  
23 to the 802.11 standard?

24 A. Yes.

25 Q. And have you -- you or they, under your

1 supervision, compiled that research and tried to  
2 analyze, as best you can, the potential universe of  
3 those who may have 802.11 patents?

4 A. Yes. We -- when we set our initial RAND rate,  
5 we do such an investigation. And as we've been hearing  
6 throughout this -- the witnesses, it's difficult to  
7 identify all of the essential patents that are out  
8 there.

9 But we made an effort to analyze who are the  
10 patent holders and looked at the declaration that did  
11 indeed include identifying patents. We made an estimate  
12 as to what Ericsson's share of essential patents may be,  
13 and we used that in order to -- for us to set the  
14 starting point, which we felt would be in line with our  
15 RAND obligations.

16 Q. Is this something that Ericsson does once and  
17 never again, or is it an ongoing process?

18 A. We have an ongoing process, which is, after we  
19 have set the initial rate, we enter into negotiations.

20 So the way we re-evaluate our RAND rate being  
21 RAND or our rate being RAND in accordance to RAND, is  
22 that we take into account the feedback we get from  
23 negotiations, and we use that to update our RAND rate  
24 when necessary.

25 Q. How does Ericsson ensure that it does not

1 discriminate?

2 A. We have a reference rate, and reference rate  
3 is the rate that Ericsson will offer a licensee, which  
4 has no value in a grant-back to Ericsson. So a licensee  
5 that has no patents, which has value for Ericsson's  
6 products, and that is -- is the reference we start with.

7 And whenever there are other terms and  
8 conditions where value is provided to Ericsson or it's a  
9 broader agreement, we will do an evaluation of all terms  
10 and conditions in order to make an effort to ensure that  
11 our RAND commitments are indeed still met.

12 Q. Now, remind us what your title is.

13 A. My title is vice president of strategy and  
14 portfolio management within Ericsson's licensing  
15 organization.

16 Q. And how many people working with you are in  
17 some way responsible for the activities you've just  
18 described of -- of trying to ensure that Ericsson  
19 complies with its FRAND and RAND commitments?

20 A. As to the 802.11 -- 802.11 standard, we -- we  
21 talk about five or six, seven people.

22 Q. Okay. And that's not the only standard body  
23 to which Ericsson has extended FRAND or RAND  
24 commitments, is it?

25 A. That's correct.

1 Q. How many others?

2 A. There are several. One of the more important  
3 ones is ETSI, obviously, which is the standard body in  
4 Europe for cellular 2G, 3G, and 4G technologies.

5 Q. Has this issue of FRAND or RAND commitments,  
6 what they entail and what procedures are carried out to  
7 make sure that they are complied with, been a matter of  
8 concern for Ericsson over the past decade?

9 A. Yes, very much so.

10 Q. Has Ericsson participated in initiatives, both  
11 in Europe and the United states, to develop this policy?

12 A. Ericsson is a very active participant in those  
13 discussions, and we've been so for the past 10 to 15  
14 years.

15 Whenever these discussions have been brought  
16 up again, Ericsson has been taking a lead in the  
17 industry in order to ensure that we continuously develop  
18 the meaning of FRAND and make sure that we have a system  
19 which can continue to support the standards and the  
20 ecosystems behind them.

21 Q. And what -- what kind of organizations or  
22 government entities has Ericsson worked with in helping  
23 to develop FRAND and RAND policy?

24 A. Recently, we have been working very actively  
25 in ETSI and ITU. And we've been working with regulators

1 in Europe, as well as in the U.S.

2 We've been taking part in IEEE, actually, a  
3 meeting which is taking place right now in Europe, IEEE,  
4 discussing the IPR policy and so forth. There are  
5 numerous organizations, and we are present in most of  
6 them.

7 Q. Okay. When you traveled to this trial, did  
8 you come straight here from a meeting in Brussels to  
9 discuss these very issues?

10 A. Yes, I did.

11 Q. Now, we've heard that these negotiations can  
12 be complicated. If Ericsson finds itself engaged in a  
13 negotiation for a license that includes more than just  
14 802.11, how does Ericsson ensure that it complies with  
15 its RAND obligations for 802.11 in an agreement that may  
16 cover a larger set of patents?

17 A. We would have a procedure where we look upon  
18 the values we see in that deal, and the different values  
19 accounted for Ericsson, the value we get from that deal  
20 from the other party; and we would also do a similar  
21 assessment as to the value Ericsson would provide to the  
22 other party.

23 And the aim is to ensure that these values  
24 meet and that we base them on -- on assumptions which  
25 are in line with our FRAND or RAND commitments.

1                   MR. CAWLEY: Let's take a quick look at  
2 Plaintiffs' Exhibit 238.

3                   Q. (By Mr. Cawley) What is this document?

4                   A. This is an example of a compilation I just  
5 talked about.

6                   Q. Why was this document created?

7                   A. This was created in order to evaluate the HP  
8 agreement, which has been discussed in this courtroom.

9                   Q. And the HP agreement, as we've heard, involved  
10 not only Wi-Fi patents but also cellular patents?

11                  A. Yes.

12                  Q. Did Ericsson feel that it was important to  
13 analyze how much of that agreement was attributable to  
14 Wi-Fi?

15                  A. Very much so.

16                  Q. Why?

17                  A. Because at the time -- and also the main value  
18 to HP was a license to Ericsson's Wi-Fi patents. HP  
19 also requested license to our cellular patents; but in  
20 order to make sure that we actually live up to our  
21 FRAND/RAND commitments, we had to put a cap on the  
22 cellular patents so that we could ensure that we did  
23 continue to meet our RAND commitment for the Wi-Fi and  
24 also our FRAND commitments for the cellular.

25                  Q. All right. Mr. Brismark, as part of your

1 responsibilities, do you stay informed of negotiations  
2 for licenses to Ericsson's Wi-Fi patents?

3 A. Yes. That's part of my daily job, yes.

4 Q. Okay. Have you ever heard that a licensee has  
5 complained that the rate it has agreed to pay Ericsson  
6 was as the result of lock-in?

7 A. No, I have not.

8 Q. Now, you've described previously Ericsson's  
9 policy of a number of years to license the makers of  
10 end-user products but not chip makers.

11 How does Ericsson view that policy as  
12 consistent with its FRAND commitments?

13 A. Excuse me. Could you repeat the question?

14 Q. Yes. Is that consistent with your FRAND  
15 commitments?

16 A. Yes.

17 Q. How so?

18 A. We -- when giving the commitment to IEEE, we  
19 commit to license fully compliant end-user products.

20 And by licensing the end-user products, we  
21 ensure that we give access to the whole ecosystem,  
22 including suppliers and so forth to these manufacturers  
23 of end-user products.

24 Q. Well, now, how could you give access to your  
25 technology to an entity like Intel if you've refused to

1 license Intel?

2 A. Our policy, which -- which is the main  
3 practice in industry, is to license end-user products.

4 And by licensing an unlimited number of  
5 companies manufacturing end-user products, we make sure  
6 that there is a license to the entire ecosystem, all the  
7 players, and there's also access to the technology for  
8 the suppliers, including chipset players.

9 And by doing so, we also ensure that we avoid  
10 double-dipping since you can only license once in the  
11 value chain.

12 Q. Has Ericsson made any effort to block chip  
13 makers from producing products that -- that read on  
14 Ericsson's patents?

15 A. Ericsson has never attempted to block any  
16 chipset player.

17 Q. Recently, though, has Ericsson offered to  
18 license Intel to its 802.11 patents?

19 A. Yes.

20 Q. Let me show you Plaintiffs' Exhibit 224.

21 What's this?

22 A. This is a letter from Ericsson to Intel where  
23 we offer Intel a license to Ericsson's essential patents  
24 for 802.11 at a royalty rate of 50 cents per unit.

25 Q. And why did Ericsson make this offer that

1 apparently is contrary to the long-standing policy  
2 you've described?

3 A. We decided to do so in order to make an effort  
4 and to resolve the issue found in this court, to find a  
5 way of settling.

6 Q. All right. Now, finally, Mr. Brismark, we've  
7 heard from the last several witnesses who have testified  
8 the suggestion that the IEEE could have simply selected  
9 alternative technologies to the technologies on which  
10 they actually selected that Ericsson holds essential  
11 patents.

12 In your view and your experience, what is the  
13 risk with that approach?

14 A. In my view, the --

15 MR. DAUCHOT: Objection, Your Honor, for  
16 the record. It calls for opinion testimony from this  
17 fact witness.

18 THE COURT: Overruled.

19 A. So in my view, having been part of  
20 standardization, I think that the -- the main criteria  
21 for selecting what goes into the standard based on  
22 technical merit ensures a standard which is continuously  
23 being developed to maintain its competitiveness on the  
24 market.

25 And I see a major risk, if you would, to go

1 for second best alternative, time after the other, that  
2 that specific standard would become redundant or  
3 non-competitive and most likely be in competition with  
4 an alternative, which may put it out of the market.

5 Q. Thank you, Mr. Brismark.

6 MR. CAWLEY: I pass the witness, Your  
7 Honor.

8 THE COURT: All right. Any redirect or  
9 recross or cross?

10 [Laughter]

11 THE COURT: It's getting late. You're  
12 losing the Judge.

13 CROSS-EXAMINATION

14 BY MR. DAUCHOT:

15 Q. Well, good evening. Good evening,  
16 Mr. Brismark.

17 A. Good evening.

18 Q. You scared away Mr. Arovas, so I will be  
19 cross-examining you today. I'm Luke Dauchot, and we  
20 have not met; is that correct?

21 A. That is correct. And I apologize for scaring  
22 away Mr. Arovas.

23 Q. All right. We -- you sat through the entire  
24 trial, and I want to point to a couple of portions of  
25 the trial, beginning with some of Ms. Petersson's

1 examination.

2 THE COURT: Counsel, before you proceed,  
3 let me just explain -- give both parties their time.  
4 Plaintiff has used 14 hours and 40 minutes, and  
5 Defendant has used 14 hours and 45 minutes. So proceed  
6 accordingly.

7 MR. DAUCHOT: I'll take that as a  
8 warning, Your Honor.

9 All right. Let's -- so let's hurry up.  
10 Mr. Brismark, please speak fast.

11 [Laughter]

12 THE WITNESS: May I read all the exhibits  
13 first?

14 [Laughter.]

15 MR. DAUCHOT: All right. No more  
16 laughing. We need to move.

17 Can you put up the trial transcript, day  
18 6/4, Page 42, Lines 9 through 14.

19 And can you blow up Lines 9 through 14,  
20 please.

21 Q. (By Mr. Dauchot) All right. So the question  
22 put to Ms. Petersson was: So you're taking the position  
23 that the Intel chipset that is in the products being  
24 sold here by the Defendants does not comply with  
25 802.11n?

1                   Answer: It complies.

2                   Question: Okay.

3                   Answer: It is not fully compliant.

4                   Do you see that?

5                   A. Yes, I do.

6                   Q. Was Ms. Petersson being truthful?

7                   A. Yes.

8                   Q. All right.

9                   MR. DAUCHOT: I'd like you to turn to  
10 Ms. Petersson's testimony.

11                   Dave, can you put up the transcript at  
12 Page 51, Lines 2 through 12?

13                   Q. (By Mr. Dauchot) Okay. Ms. Petersson  
14 testified at trial that Ericsson offered to license  
15 Intel.

16                   Do you see that?

17                   A. Yes, I do.

18                   Q. And she said that the license was for 50 cents  
19 per chipset.

20                   You see that?

21                   A. I see that, yes.

22                   Q. And that is truthful testimony?

23                   A. That was the offer Ericsson made to Intel,  
24 yes.

25                   Q. All right. Now, Ms. Petersson testified at

1 Page 56, Lines 20 through 56 -- through 57/3.

2 MR. DAUCHOT: Dave, put that up.

3 Q. (By Mr. Dauchot) -- that the offer was made to  
4 Intel roughly eight weeks ago.

5 Is that consistent with your memory?

6 A. I think there was a first offer in a -- form  
7 of a letter, which was sent on March 8th. And then  
8 there was a complete agreement sent to Intel end of  
9 April.

10 Q. That's -- that's exactly right.

11 A. I suppose Ms. Petersson referred to the  
12 complete agreement.

13 Q. The complete agreement. Because you'll  
14 recall -- I don't know if you remember it -- in response  
15 to the March letter that you put up, there was a  
16 response from Intel -- and all of that will be submitted  
17 into the record -- to the effect that they'd like to see  
18 the entire agreement.

19 Do you recall that letter from Intel?

20 A. I do.

21 Q. And in response to that, Ericsson sent the  
22 April full agreement that you just testified to,  
23 correct?

24 A. That is correct.

25 Q. All right.

1 MR. DAUCHOT: Let's put up PX 603.

2 Q. (By Mr. Dauchot) And that is the agreement  
3 that Ms. Petersson testified to the Court and jury under  
4 oath that constitutes an offer to license Intel chips,  
5 correct? Or chipsets.

6 A. I believe that's correct, yes.

7 Q. All right.

8 MR. DAUCHOT: Let's look at PX -- let's  
9 look at Section 2.1.

10 Dave, can you put up 2.1? And can you  
11 blow up the license grant?

12 Q. (By Mr. Dauchot) Okay. Now, the license grant  
13 is a grant Ericsson proposes to grant to Intel  
14 worldwide, non-transferable, et cetera, et cetera.

15 License under the licensed patents to make,  
16 have made, use, import, sell, and offer for sale and  
17 company products, right?

18 A. The license is for company products, yeah.

19 This -- that is correct, yes.

20 Q. Okay. Good.

21 MR. DAUCHOT: Let's turn to Section 1.3  
22 for the definition of company products. And can you  
23 blow that up.

24 Q. (By Mr. Dauchot) It says: Company products  
25 shall mean all products of company that are fully

1 compliant.

2 Do you see that?

3 A. I see that.

4 Q. Now, you just testified five minutes ago that  
5 Ms. Petersson said that Intel's chips are not fully  
6 compliant.

7 A. That is correct.

8 Q. So this is a license to what? Illusory;  
9 license to nothing?

10 A. This is the first offer of a draft agreement  
11 to Intel, and I -- I would suspect that before this  
12 agreement would have been signed, would Intel be  
13 interested that an edit would have been --

14 Q. Yeah. Mr. Brismark, my question is this:  
15 Ms. Petersson testified to the Court and to the jury  
16 that eight weeks ago, there was a license made to Intel,  
17 to Intel chips.

18 And are you now testifying under oath that  
19 what Ms. Petersson testified, and the only offer in the  
20 record, is one that Ericsson would anticipate would  
21 maybe somehow get modified down the end of the road? Is  
22 that what you're testifying to under oath?

23 A. I think that Ms. Petersson testified --

24 Q. Sir, is that what you are saying under oath?

25 A. -- that based on --

1 Q. Yes or no.

2 A. I would like to make a comment about that.

3 Q. Can you answer my question yes or no?

4 A. I cannot.

5 Q. You cannot answer my question yes or no.

6 You will agree, though, that this particular license,  
7 sir, the one Ms. Petersson testified to and the one that  
8 you just testified to two minutes ago is not a license  
9 to Intel chips, correct?

10 A. I can testify --

11 Q. Correct, sir?

12 A. -- that an edit would have been found --

13 Q. Sir, I'm not talking about --

14 A. -- and the discussion would have continued.

15 THE REPORTER: Excuse me.

16 THE COURT: All right, Counsel. The  
17 Court Reporter cannot write down both of you talking at  
18 the same time, so let's slow down, one at a time.

19 MR. DAUCHOT: Fair point, Your Honor.

20 Q. (By Mr. Dauchot) And, Mr. Brismark, I am not  
21 talking about edits to this agreement down the road. I  
22 am talking about this exhibit.

23 This exhibit is not a license to Intel to  
24 manufacture chipsets; am I correct? Am I correct?

25 A. This exhibit may still contain edits, which

1 would have been needed to correct before a complete  
2 license had been signed.

3 Q. And that is not what Ms. Petersson testified  
4 to under oath to the jury and to the Court; am I  
5 correct?

6 Ms. Petersson testified to the Court and to  
7 the jury that there had been an offer made to Intel's  
8 chips eight weeks ago.

9 Do you recall that testimony?

10 A. Yes.

11 Q. And is that testimony accurate, sir?

12 A. The intent of the letter was to offer a  
13 license to Intel --

14 Q. All right, sir.

15 A. -- based on these terms, and they may still  
16 continue (sic) some edits.

17 Q. Now, the 2003 LOA, letter of agreement (sic),  
18 PX 293, you're familiar with that, correct?

19 A. No.

20 Q. PX 2 --

21 MR. DAUCHOT: I'm sorry. I'm sorry.

22 PX 293, David, the letter of assurance.

23 A. If I may see -- I may be familiar, but I have  
24 to look at it first.

25 Q. (By Mr. Dauchot) Well, you're familiar with

1 Ericsson's letter of assurance to Intel and others?

2 A. Yes, I'm aware of this.

3 Q. All right, sir. Now, let's look -- it's your  
4 testimony that the fully compliant language is -- is --

5 MR. DAUCHOT: Strike the question.

6 Q. (By Mr. Dauchot) It is your testimony that  
7 under this agreement, this letter of assurance, Ericsson  
8 only has an obligation to license fully compliant  
9 products, correct?

10 A. Yes, that's my testimony.

11 Q. Correct. And now, you agree that this letter  
12 of assurance does not define what fully compliant means;  
13 am I right?

14 A. That is correct.

15 Q. That is correct.

16 And Ms. Petersson testified that according to  
17 you-all at Ericsson, fully compliant means something  
18 that's used by consumers, correct?

19 A. That would be one description, yes.

20 Q. One of them? Are there more?

21 A. I think you could -- could maybe find other  
22 descriptions that are proper. I think this is one  
23 description.

24 Q. Well, where do I look?

25 A. Excuse me?

1 Q. Where does Intel look? Is there a book?

2 A. I think that if you look up on the practice in  
3 the industry how licensing is being done, you would find  
4 that fully compliant and licensing at end-user level  
5 is --

6 Q. My question is: Where do we look for your  
7 definition of fully compliant? Where does Intel look?  
8 Is there a book? Is there an article? Is there some --  
9 something that would tell Intel: Put everyone on notice  
10 what you-all mean by fully compliant?

11 A. I am not aware of any book.

12 Q. Okay. Now, I'd like to show you -- and this  
13 is going to be -- this was submitted into -- into  
14 evidence here, Mr. Alfalahi's deposition, a clip from  
15 it. Mr. Alfalahi is the person to whom you report,  
16 correct?

17 A. That is correct.

18 Q. All right. Now, it is your position that the  
19 203 -- the 2003 letter of assurance is limited to fully  
20 compliant products, correct?

21 A. That is my understanding.

22 Q. And fully compliant products, according to  
23 your definition, is basically end products, right?

24 A. End product is a fully compliant product, yes.

25 Q. Okay. Now, let's show the Alfalahi clip,

1 LB92, please. This is your boss.

2 (Video playing.)

3 QUESTION: So my question is: Where in  
4 this letter of assurance does it say that Ericsson's  
5 duty to extend a license to an unrestricted number of  
6 applicants applies only to applicants who make, sell, or  
7 use end product --

8 ANSWER: It doesn't --

9 QUESTION: -- as opposed to component  
10 products?

11 ANSWER: It doesn't say.

12 QUESTION: And the same is true of  
13 Exhibit 10, correct?

14 ANSWER: Yes.

15 (End of video clip.)

16 Q. (By Mr. Dauchot) Now, that's your boss, right?

17 A. Yes.

18 Q. That's the director of Ericsson's licensing  
19 program, correct?

20 A. Yes. And he has -- he delegates some  
21 responsibilities to me. For instance, looking after our  
22 FRAND commitment.

23 Q. Can we assume that Mr. Alfalahi knows what  
24 he's talking about when he's talking about the Ericsson  
25 letters of assurance?

1 A. I think he trusts me to do a good job.

2 Q. Are you saying that you can't trust him?

3 A. I trust him.

4 Q. You trust him. All right.

5 Now, is a modem a consumer -- an end -- an end  
6 product?

7 A. It depends. If it's something that an end  
8 user could easily enable to work, then it's -- then it's  
9 an end product.

10 Q. Okay. So fully compliant product not only  
11 means a product that an end user can use, but it has to  
12 be one that an end user can easily use? Is that -- is  
13 that part of the definition of fully compliant, just so  
14 I have it?

15 A. As I said, there are many definitions, but  
16 "can use" is fine as well.

17 Q. I understand. You were telling me there are  
18 many definitions. I don't know where to look. Intel  
19 doesn't know where to look. In fact, no one knows where  
20 to look.

21 You just testified under oath that fully  
22 compliant, a modem, may or may not be fully compliant  
23 depending on how easily a consumer can use it. Is that  
24 what you just -- that's what you just said, right?

25 A. I said that it's fully compliant if the end

1 user can easily install it, yes, I said that.

2 Q. Can easily install it?

3 A. Yeah. I could also say --

4 Q. Okay. Now, what if we take a consumer  
5 who's --

6 THE COURT: Counsel. Counsel.

7 MR. DAUCHOT: I'm sorry, Your Honor.

8 THE COURT: You're interrupting and  
9 cutting off the witness.

10 A. I could also have said that if an end user can  
11 install it, then it's fully compliant, and it's an end  
12 product.

13 Q. (By Mr. Dauchot) So if a consumer -- so we  
14 take consumer A, who's technically inept and can't  
15 install it, and take consumer B, who's technically  
16 proficient and can install it, the product is fully  
17 compliant as to the one who is technically capable and  
18 the one -- and not compliant as to the one who can't put  
19 it in? Is that -- is that what you're testifying to?

20 A. I'm testifying that if an end user can install  
21 a modem and use it, then it's an end product.

22 Q. All right. Now, you understand that you're --  
23 okay. So it depends on the consumer, what the consumer  
24 can do?

25 A. It always does.

1 Q. All right. Now, you said that the -- you  
2 testified --

3 MR. DAUCHOT: I'll strike that question.

4 I am now running out of time. Your  
5 Honor, if I could just have one second here to see if  
6 there's anything in particular that I wanted to touch  
7 on.

8 THE COURT: Certainly.

9 (Pause in proceedings.)

10 Q. (By Mr. Dauchot) Oh, one additional point, and  
11 I'll -- and then I'll wrap up.

12 You mentioned, in response to questioning,  
13 about the issue of aggregation?

14 A. Yes.

15 Q. And you said -- you testified that Ericsson's  
16 very careful about making sure that its rate complies  
17 with the aggregation concept, right?

18 A. I testified that we are very careful to ensure  
19 that our rates are in line with our FRAND or RAND  
20 commitments.

21 Q. Right. Now, you remembered Ms. Petersson  
22 testifying about that aggregation effort in the context  
23 of Defendants' Exhibit 65. Do you remember that, that  
24 chart that was put up?

25 A. May I see it?

1 Q. Well, do you recall it?

2 A. I'd like to see it before I answer that  
3 question.

4 Q. All right.

5 MR. DAUCHOT: DX 65. Dave, do you have  
6 it?

7 A. Yes.

8 Q. (By Mr. Dauchot) You recognize it?

9 A. Yes, I recognize that.

10 Q. And that is one of Ericsson's efforts to come  
11 up with accurate aggregation, right?

12 A. This is an effort for Ericsson to ensure that  
13 when we set our initial rate, we believe that it's in  
14 line with the RAND commitment.

15 Q. All right. Now, you testified to -- you  
16 testified to other documents --

17 MR. DAUCHOT: Well, strike the question.

18 No further questions. Thank you.

19 THE COURT: All right. Redirect?

20 MR. CAWLEY: Just a bit, Your Honor.

21 REDIRECT EXAMINATION

22 BY MR. CAWLEY:

23 Q. Mr. Brismark, I just don't want there to be  
24 any confusion about the letter that Ericsson sent Intel  
25 and the draft license agreement.

1                   MR. CAWLEY: First of all, let's look  
2 again at Plaintiffs' Exhibit 224.

3           Q. (By Mr. Cawley) Now, tell us again what this  
4 is.

5           A. This letter is sent from Ericsson to Intel to  
6 inform that Ericsson is willing to offer Intel a license  
7 without any grant-back at a rate of .50 dollar per  
8 device.

9           Q. Okay. That's what it says on the second  
10 paragraph of the -- or excuse me -- the second sentence  
11 of the letter, right?

12           A. Yes.

13           Q. Did you participate in the decision by  
14 Ericsson to make this offer to Intel?

15           A. Yes.

16           Q. And did Intel respond to it?

17           A. Yes, they did.

18           Q. What did they request?

19           A. They requested Ericsson to send a complete  
20 draft agreement with all the terms and conditions.

21           Q. And did Ericsson comply with that request?

22           A. Yes, we did.

23           Q. Did Ericsson have prepared by its counsel a  
24 proposed draft license agreement?

25           A. Yes.

1 Q. And did Ericsson transmit that to Intel?

2 A. Yes, we did. And on April 25, I recall.

3 Q. And was Ericsson prepared to have negotiations  
4 with Intel over the terms of that draft license  
5 agreement?

6 A. Yes, we had.

7 Q. Did Intel ever request that?

8 A. No.

9 Q. Did Intel ever respond to the proposed draft  
10 license agreement in any form?

11 A. Not with any comments on the draft agreement,  
12 as far as I can recall.

13 Q. Okay. Thank you, sir.

14 MR. CAWLEY: I'll pass the witness, Your  
15 Honor.

16 THE COURT: All right. Thank you.

17 Anything further?

18 MR. DAUCHOT: One brief point, Your  
19 Honor.

20 RECROSS-EXAMINATION

21 BY MR. DAUCHOT:

22 Q. Mr. Brismark, you do understand that there  
23 were -- that there has been a Court-ordered mediation in  
24 this case?

25 A. Yes.

1 Q. And you understand that Intel and Ericsson  
2 have participated in that?

3 A. Yes, I do.

4 Q. Okay. And those -- that stays confidential  
5 pursuant to a mediation privilege.

6 You understand that?

7 A. That's my understanding, yes.

8 Q. Thank you.

9 MR. DAUCHOT: No further questions.

10 THE COURT: All right. Thank you.

11 Anything further?

12 MR. CAWLEY: Nothing further, Your Honor.

13 THE COURT: All right. You may step  
14 down.

15 All right. Who will Ericsson's next  
16 witness be?

17 MR. CAMPBELL: Your Honor, we call  
18 Dr. Scott Nettles.

19 THE COURT: All right. Dr. Nettles.

20 All right. You may proceed.

21 MR. CAMPBELL: Thank you, Your Honor.

22 SCOTT NETTLES, Ph.D., PLAINTIFFS' WITNESS,

23 PREVIOUSLY SWORN

24 DIRECT EXAMINATION

25 BY MR. CAMPBELL:

1 Q. Good evening, Dr. Nettles.

2 A. Good evening.

3 Q. Have you analyzed the non-infringing  
4 alternatives that were disclosed in Mr. -- or  
5 Dr. Heegard's report?

6 A. Yes, sir, I have.

7 Q. Do you believe that the alternatives he  
8 discussed today would have been available, acceptable,  
9 and non-infringing in early 2007?

10 A. No, sir, I do not.

11 Q. Before we get into the specifics, let me ask  
12 you some general questions.

13 Have you seen any -- seen any evidence that  
14 the alternatives were actually proposed to the IEEE?

15 A. No, sir, with the exception of the alternative  
16 that Dr. Heegard clarified was actually part of the  
17 standard.

18 Q. Have you seen any evidence that the  
19 alternatives were actually considered by the IEEE, other  
20 than the one that's actually part of the standard?

21 A. No, sir.

22 Q. Are you aware of any testing done to confirm  
23 that these alternatives would work?

24 A. No, sir.

25 Q. Have you seen any evidence that the Defendants

1 have actually implemented any of these alternatives?

2 A. Well, I'm not sure about the one that's in the  
3 standard. I haven't seen any specific evidence. But in  
4 general, no.

5 Q. Now, since the 802.11n standard came out, the  
6 IEEE has released a new 802.11 standard, correct?

7 A. Yes, sir.

8 Q. That was the 2012 version?

9 A. That's right.

10 Q. What did the 2012 version do?

11 A. It rolls up all the changes from 2007 up until  
12 2012 into a new sort of single unified standard.

13 Q. And other than the one alternative that's in  
14 the standard, has the non-infringing alternatives that  
15 Dr. Heegard proposed been voted into that standard?

16 A. No, sir, they haven't.

17 Q. Have you seen any evidence that Intel or any  
18 other Defendant proposed any of Dr. Heegard's --  
19 Dr. Heegard's alternatives for that standard?

20 A. No, sir.

21 Q. All right. Well, let's talk about the '215.

22 Do you understand that Dr. Heegard's  
23 alternative, proposes removing the Multi-TID and  
24 compressed BlockAck subfields?

25 A. Yes, sir, I understand that.

1 Q. Would this be alternative -- would this  
2 alternative be available and acceptable?

3 A. No, sir, I don't think so.

4 Q. Why not?

5 A. Well, the BlockAck -- a compressed BlockAck  
6 bit, that lets you choose between the standard BlockAck  
7 and the compressed BlockAck. And eliminating that bit  
8 would create a backwards compatibility issue with  
9 respect to 802.11e.

10 Q. And why would that be a problem?

11 A. Because "e" has the normal uncompressed  
12 BlockAck. And so if you only had the com -- compressed  
13 BlockAck, then that would work in "e" products and  
14 wouldn't provide backward compatibility.

15 Q. So if someone had an 802.11e product, how  
16 would they be affected?

17 A. Well, it wouldn't work with the "n" standard.  
18 And in general, the 802.11 standards have been quite  
19 meticulous about providing backward compatibility.

20 Q. What about the Multi-TID BlockAck? What does  
21 that relate to?

22 A. That relates to the power save multi-poll  
23 feature of 802.11n.

24 Q. And how would that be impacted?

25 A. It would basically -- it's a key feature, the

1 power save multi-poll. So it would effectively disable  
2 that mode.

3 Q. Was that important -- was the power save  
4 multi-poll feature important?

5 A. Well, it was included in the standard, and  
6 apparently, at least some people wanted to make it  
7 mandatory.

8 Q. Okay. Now, does -- does the '215 patent and  
9 the method that is used in the standard, does that allow  
10 for future growth?

11 A. Yes, sir, it does.

12 Q. How does it do that?

13 A. Well, there's still one choice left, the  
14 reserve field. And as we've heard, standards tend to  
15 evolve, and so that reserve field would provide for  
16 future growth.

17 Q. Okay.

18 MR. CAMPBELL: Let's turn to the '568  
19 patent.

20 Q. (By Mr. Campbell) Do you understand  
21 Dr. Heegard's alternative for this patent is  
22 prioritizing packets at the transmitter without  
23 including a TID field in the packets?

24 A. I do.

25 Q. Would this alternative be available and

1 acceptable?

2 A. No, sir.

3 Q. Why not?

4 A. Well, the reason it's not acceptable is  
5 because Dr. Heegard neglected the case where the  
6 receiver is also a transmitter. And that's an important  
7 case, because that's the case of the router when the  
8 router is -- is taking a communication from one terminal  
9 and then forwarding it to another terminal that's in the  
10 same local area network.

11 And in that case, if you don't transmit that  
12 traffic identifier, then the router doesn't know what  
13 priority to give to its transmission. And so as a  
14 result, the retransmissions from the router would not be  
15 prioritized.

16 And that would defeat the whole purpose of  
17 having these priorities. And, of course, the local case  
18 is an important one.

19 Q. Why is it important? Can you give me an  
20 example of when this might happen?

21 A. Imagine you want to stream video from your  
22 laptop to your television in your home. It's going to  
23 go through your router. I have streaming media that I  
24 use in my home to play music. Again, that goes through  
25 my router. This would eliminate the prioritization for

1 those kinds of media.

2 Q. Okay. All right.

3 MR. CAMPBELL: Let's turn to the '625 and  
4 '435 patents.

5 Q. (By Mr. Campbell) You understand Dr. Heegard  
6 offered two alternatives for that. One was send a  
7 single ACK with no window, and a second was send a  
8 BlockAck with no window.

9 Do you recall that?

10 A. Yes, sir, I do.

11 Q. Did you review Dr. Heegard's report regarding  
12 these alternatives?

13 A. I did.

14 Q. Does the report provide enough detail to  
15 analyze these alternatives?

16 A. No, sir, not really.

17 Q. Does the report provide -- well, how much  
18 detail did the report provide on these alternatives?

19 A. Well, it's just a very brief sort of  
20 statement, very similar to the slides he gave, except  
21 the slides that he gave included a slide that clarified  
22 that the first alternative he intended to be very  
23 similar to the normal way that 802.11 packets worked  
24 before there was -- there was aggregation.

25 So there wasn't even that much detail in his

1 set of proposals.

2 Q. So is it clear how these alternatives would  
3 fit into the 802.11n standard?

4 A. Not really.

5 Q. What information is missing?

6 A. Well, for example, it doesn't explain how  
7 the -- the receiver would deal with the case where it  
8 needed to move on, where something was missing and had  
9 been discarded at the transmitter. That wasn't clear.

10 It wasn't clear exactly when the transmitter  
11 would decide to retransmit things. It wasn't clear what  
12 the transmitter would do with respect to this moving-on  
13 issue. There was no code provided. It was just a very  
14 sort of high-level -- level sketch.

15 Q. Based on your best understanding of these  
16 alternatives, would they be available and acceptable?

17 A. No, sir, I don't think so.

18 Q. Are these alternatives non-infringing?

19 A. That -- that part is a little harder to  
20 analyze, especially with respect to the second one. It  
21 would depend on some of those design details, I believe.

22 Q. Okay. Well, let's take the first one:  
23 Sending a single ACK with no window. What are the  
24 problems with that alternative?

25 A. Well, that's the one that actually is

1 incorporated into the current standard in the aggregated  
2 MSDU feature, and I'd note that none of the Defendants  
3 actually appear to implement that feature.

4                   And the problem with that is that if there's  
5 any loss, the entire aggregated MSDU has to be  
6 retransmitted.

7                   And one of the things that's important to  
8 understand is that when you aggregate, you make the  
9 packet, the thing you're going to transmit, longer.

10                  That makes loss more likely, and it also makes  
11 it more expensive to retransmit the whole thing.

12                  And so both of those factors tend to suggest  
13 that there would be a performance impact, especially if  
14 you make the aggregate large. And that's exactly the  
15 point of aggregation is to try to make the aggregate  
16 large.

17                  Q.    What about the lack of a window? How does  
18 that impact things?

19                  A.    Well, I think Dr. Heegard made it a little  
20 more clear today when he showed a slide. There the real  
21 question is: How do you deal with this issue of what if  
22 there's some loss that you want to move on beyond?

23                  And I think that that was a little bit more  
24 clear, because he said, basically, do it the way we did  
25 it for single packets in the original 802.11 techniques.

1 Q. Okay. What are the problems with the second  
2 alternative?

3 A. The second alternative has many of the same  
4 problems. And in fact, Dr. Heegard even admitted today  
5 when he testified that it would have performance issues.

6 The biggest issue is that, although you're  
7 going to retransmit sub-blocks, let's call them, there's  
8 still no way to move ahead in the process.

9 In the current standard, when you need to  
10 retransmit a sub-block, the window can move. You can  
11 continue to accept new packets while the old packet is  
12 being retransmitted.

13 Here, his proposal wouldn't allow that to  
14 happen. And it's not clear what the performance impact  
15 would be without some kind of -- some kind of study or  
16 testing.

17 Q. Okay. Let's finally talk about the '223  
18 patent.

19 Do you understand that Dr. Heegard's  
20 alternative for that is to use non-Intel chips?

21 A. That's -- that seemed to be his proposal.

22 Q. And were there any reasons why the chips that  
23 don't implement the timer are inferior to the Intel  
24 chips that do implement the timer?

25 A. Well, the timer gives you tighter control over

1 when you're going to discard packets. And clearly,  
2 since it was put into the standard, the -- the -- the  
3 standards body considered that to be an important  
4 feature.

5 So I would say that's -- that's evidence that  
6 it's inferior.

7 Q. Is there -- are there actually two mechanisms  
8 in the standard to keep track of resending packets?

9 A. Yes, sir. There's a retry count, and then  
10 there's the timer.

11 Q. And is there a benefit to using both  
12 mechanisms?

13 A. Yes, sir. Sometimes the retry count is going  
14 to give you a more precise idea about when to drop a  
15 packet, and sometimes the timer is going to give you a  
16 little more precise idea.

17 Q. And do you understand Intel's chips are  
18 typically more expensive and at the high end of the  
19 market?

20 A. I do.

21 MR. CAMPBELL: Thank you, Dr. Nettles.

22 THE COURT: All right.

23 Cross-examination.

24 MS. PIEPMAYER: Thank you.

25 Sarah Piepmayer for Defendants, and I'm

1 going to try to do a sub-30-second cross, which I've  
2 never done before. So we'll see how that goes.

## CROSS-EXAMINATION

4 BY MS. PIEPMEIER:

5 Q. Good evening, Dr. Nettles.

6 You didn't do any testing to confirm any of  
7 the opinions you've just expressed with respect to any  
8 of the non-infringing alternatives that Dr. Heegard  
9 identified, correct?

10 A. That's correct.

11 Q. And today you didn't express an opinion on  
12 whether or not any of those non-infringing alternatives  
13 actually infringed.

14           A.     No, sir. I think -- I mean, no, ma'am. I  
15 believe that would require further analysis.

16 Q. Thank you.

17 MS. PIEPMEIER: Pass the witness.

18 THE COURT: Very good job.

19 [Laughter]

20 THE COURT: Redirect?

21 MR. CAMPBELL: No, Your Honor.

22 THE COURT: All right. Thank you.

23 All right. Who will be Plaintiffs' next  
24 witness?

25 MR. CAPALBEE. YOUR HONOR, THE FINAL

1 witness, we call Mr. Bone.

2 THE COURT: All right. Mr. Bone.

3 JOHN BONE, PLAINTIFFS' WITNESS, PREVIOUSLY SWORN

4 DIRECT EXAMINATION

5 BY MR. CAMPBELL:

6 Q. Good evening, Mr. Bone.

7 A. Good evening.

8 Q. Let's get right to it.

9 You heard Dr. Leonard talk about holdup,  
10 correct, sir?

11 A. I did.

12 Q. As part of your analysis, did you find that  
13 any of Ericsson's actual agreements included holdup?

14 A. No.

15 Q. Can you tell us what you did to evaluate  
16 whether Ericsson's agreements included holdup?

17 A. I considered -- excuse me -- a number of  
18 factors in connection with the actual real-world  
19 licenses to determine whether or not there was holdup.

20 Q. Can you tell the Court what factors you  
21 considered?

22 A. Sure. Excuse me.

23 The first factor that I considered was  
24 Ericsson's long-term best interest. And that is,  
25 Ericsson is a holder of a significant number of standard

1 essential patents, as we've heard, not only -- excuse  
2 me -- in the cellular space, but also the Wi-Fi space.

3                   And -- and they have those commitments. They  
4 have FRAND commitments as it relates to their cellular  
5 technology, and they have the RAND commitments as it  
6 relates to their Wi-Fi technology. And so as -- and  
7 they've not only done that historically, but they want  
8 to do that on a long-term basis.

9                   And so -- excuse me -- in terms of credibility  
10 in the marketplace and their ability to not only license  
11 others but also to contribute technology to these  
12 very -- these standard-setting bodies, it is in their  
13 long-term best interest to not extract holdup value when  
14 they enter into agreements.

15                   Another factor that I considered was the fact  
16 that each of Ericsson's licensees, except for one, was a  
17 publicly-traded company. So they had a fiduciary  
18 responsibility to make sure that they entered into  
19 agreements at rates that would maximize their share of  
20 the profits.

21                   And so, therefore, it would not be consistent  
22 with their fiduciary responsibility to enter into  
23 agreements that contained holdup.

24                   I also considered the fact that RIM and HP are  
25 very sophisticated licensees -- licensees. And they've

1 entered into numerous license agreements with other  
2 parties, and it would not have been consistent with  
3 their abilities to negotiate, and they would want to  
4 negotiate their best deal in light of Ericsson's RAND  
5 obligations.

6                   Also, Ericsson did, in fact, make RAND  
7 obligations; and as I understand it, the licensees were  
8 aware of Ericsson's RAND obligations when they entered  
9 into these agreements.

10                  And --

11                  Q.    What about the range of the license rates?

12                  A.    Well, that is, I think, also instructive, in  
13 that the -- given the fact that all of these agreements,  
14 all these negotiations were bilateral negotiations,  
15 confidential negotiations between the parties, it is, I  
16 think, somewhat telling, when you look at the fact that  
17 the rates that the parties agreed to were -- are roughly  
18 in the same ballpark.

19                  Q.    What -- that about the timing of the  
20 agreements?

21                  A.    So a number of the agreements, I think at  
22 least four of them -- you have the Option agreement --  
23 excuse me -- the RIM agreement, Ascom, and Buffalo were  
24 all either agreed to; or as it relates to the Buffalo  
25 agreement, were in the process of being negotiated

1 before the 802.11n standard was finalized or adopted.

2                   And so if at any time prior to that the  
3 licensees believed that Ericsson was extracting holdup  
4 value, they could have gone to the IEEE and complained  
5 that Ericsson was extracting holdup.

6                   There is no evidence that any of the licensees  
7 went to the IEEE and complained that Ericsson was, in  
8 fact, extracting holdup.

9                   Q.    Is there a name for the type of agreement  
10 where the license is entered into before the standard is  
11 adopted?

12                  A.    Yes. Those are ex-ante license agreements.

13                  Q.    Mr. Bone, in your opinion, do the rates  
14 reflected in Ericsson's licenses account for its RAND  
15 commitment?

16                  A.    In my opinion, they do.

17                  Q.    What else do the actual market rates reflect?

18                  A.    I covered a little bit of this in my testimony  
19 last week, and that was the market rates take into  
20 account a number of factors, one of which is the fact  
21 that the -- Ericsson's technology, the rates that people  
22 were willing to pay -- considered the value of  
23 Ericsson's technology, in light of all the other  
24 technology that's embedded in the machine, whether it's  
25 a laptop or a router; and that would include other

1 standard essential patents that may exist.

2 So it addresses the stacking issue. In other  
3 words, the licensees would have been aware of the  
4 stacking issue, yet still entered into these rates.

5 It also factors in -- the market rates factor  
6 in non-infringing alternatives. And so we've heard some  
7 theories on some possible non-infringing alternatives.

8 The rates that other companies were willing to  
9 pay take into account what other companies would be  
10 willing or could have done.

11 And it would suggest that if there were  
12 alternatives, as Dr. Leonard would suggest, then these  
13 would be irrational licensees by willing -- by the fact  
14 that they entered into these agreements with Ericsson at  
15 the rates they did.

16 Q. What about the cost of the component, such as  
17 the price of the chip?

18 A. So market rates also take into account the  
19 fact that the chip itself can sell as low as \$1 to \$2  
20 per chip, and so the fact that the market rates --  
21 people were willing to pay Ericsson's rate, despite the  
22 fact that the chips were only a dollar to \$2 at times.

23 Q. Now, Defendants have suggested that a number  
24 of these agreements are broad cross-licenses or include  
25 rights to other technology, and therefore, the rates

1 reflect something more than just for the  
2 patents-in-suit.

3                   Are they right?

4           A.    Well, the agreements do include other  
5 technology. However, if you look at the agreements, the  
6 agreement -- the terms of the agreements are structured  
7 in such a way that you can identify the specific value  
8 associated with the 802.11 patents in most cases.

9                   In some cases, you have to go beyond the  
10 actual four corners of the agreement and look at  
11 supporting documentation that would suggest what the  
12 parties were -- in this case, that relates -- at least  
13 as it relates to the HP agreement, what Ericsson  
14 believed was an appropriate rate.

15           Q.    So were you able to isolate the value  
16 attributable to the 802.11 portfolio?

17           A.    Yes, I was.

18           Q.    Now, Defendants' claim that the royalty should  
19 be limited to the price of the chip, are there any  
20 reasons why that is not appropriate?

21           A.    Well, that's -- I don't believe it would be  
22 appropriate for a number of reasons.

23                   One, that's not what we see in practice. We  
24 don't see the agreements entered into. And the rates  
25 that other people were willing to pay do not suggest

1 that it would be limited to just the price of the chip.

2               Also, there is evidence that Intel and  
3 Broadcom and others, to the extent they do pay for  
4 technology, for IP rights, that's included in their R&D  
5 expense.

6               And so as we've heard during the trial, Intel  
7 has spent well over \$2 billion in R&D. So whatever  
8 royalty they would pay, more than likely would be  
9 wrapped up into the 2-billion-dollar R&D expense and not  
10 necessarily burdened on to the chip.

11           Q. Okay. Now, did you -- do you agree that the  
12 cost of a design-around is an appropriate input in  
13 determining the price of the Ericsson's portfolio?

14           A. Well, it can be, if you have alternatives that  
15 are viable, that are acceptable, and that are  
16 non-infringing.

17           From what I understand is that there is not  
18 consensus or agreement on these non-infringing  
19 alternatives. So while it can be, in this case, I don't  
20 think it is appropriate.

21           Q. And would the actual real-world licenses have  
22 taken that into account?

23           A. Absolutely.

24                   MR. CAMPBELL: No further questions.

25                   THE COURT: All right. Thank you.

1                   Cross-examination.

2                   MR. JONES: Thank you, Your Honor.

3                   CROSS-EXAMINATION

4 BY MR. JONES:

5                   Q. Three questions.

6                   First, would a 50-cent royalty on all 802.11n  
7 products for these five patents over the life of these  
8 patents result in the payments of billions of dollars in  
9 royalties?

10                  A. I don't think I understand your question.

11                  Q. I'll try again.

12                  A. Okay.

13                  Q. Would a 50-cent royalty payment --

14                  A. Yep.

15                  Q. -- on all 802.11n products for these five  
16 patents, over the life of these patents, result in the  
17 payment of billions of dollars in royalties?

18                  A. I don't know. I haven't done that  
19 calculation.

20                  Q. Thank you, sir.

21                  Number two, can you cite us to any documents  
22 that show us that either RIM, HP, Option, Ascom, Sonim,  
23 or Buffalo brought up Ericsson's LOAs and Ericsson's  
24 RAND obligations in their negotiations of the licenses  
25 you find instructive on your rate?

1 A. None that come to mind as I sit here, no.

2 Q. Thank you, sir.

3 And then finally, does the concept of smallest  
4 saleable patent-practicing units have any implications  
5 on RAND obligations on the part of Ericsson?

6 A. It -- it could. It may. I think more  
7 instructive here is the market rates that people were  
8 willing to pay which take into consideration the  
9 smallest saleable unit.

10 Q. Okay. Did you -- do you believe that concept  
11 has any application, as far as a downward trend or  
12 impact, upon the RAND rates applicable to Ericsson's  
13 five patents-in-suit?

14 A. Does what?

15 Q. Has a downward impact on the applicable RAND  
16 rate?

17 A. Does the smallest saleable unit?

18 Q. That concept.

19 A. Not in this case; not given the facts.

20 Q. Thank you, sir.

21 MR. JONES: I pass the witness, Your  
22 Honor.

23 THE COURT: Thank you, Mr. Jones.

24 Redirect?

25 REDIRECT EXAMINATION

1 BY MR. CAMPBELL:

2 Q. Mr. Bone, the letters of assurance to the IEEE  
3 from Ericsson, those are public, correct, sir?

4 A. They are.

5 Q. Any reason you can think of that HP, RIM,  
6 Buffalo would not have been aware of those?

7 A. Not that I can think of.

8 Q. Thank you, sir.

9 THE COURT: All right. Thank you. You  
10 may step down.

11 Who will be your next witness?

12 MR. CAMPBELL: That's all our witnesses,  
13 Your Honor.

14 We rest.

15 THE COURT: Plaintiffs finally close?

16 MR. CAMPBELL: Yes.

17 THE COURT: Defendants finally close?

18 MR. DAUCHOT: Yes, Your Honor.

19 THE COURT: All right.

20 MR. DAUCHOT: Do we have the exhibits in  
21 evidence?

22 Your Honor, with your permission, I'd  
23 just like to read into the record the slide numbers just  
24 so that that's clear.

25 THE COURT: Well, let me do this before

1 you do that: Your final exhibit list and your  
2 demonstrative list, I understand that you've handed  
3 those to Ms. Ferguson; but if you would, let's offer  
4 those on the record as we have previously, and then  
5 we'll take up your matter if this doesn't solve it.

6 Okay.

7 MS. MOORE: Yes, Your Honor.

8 I have Plaintiff Ericsson's Final  
9 Admitted Trial Exhibit List. And just one housekeeping  
10 matter, this exhibit list includes Plaintiffs'  
11 Exhibit 71, which, although it was discussed during  
12 testimony, and I believe Defendants originally had  
13 raised an objection that Your Honor overruled, I don't  
14 know that we got confirmation it was admitted into the  
15 record; and I would just like to clarify that.

16 THE COURT: All right. Any objection to  
17 those exhibits?

18 MR. DE VRIES: No objection, Your Honor.

19 THE COURT: All right. That will be  
20 marked as Plaintiffs' Exhibit List No. 8, and those  
21 exhibits are admitted.

22 MS. MOORE: I also have Plaintiff  
23 Ericsson's Demonstrative Evidence Trial Exhibit List.

24 THE COURT: All right. And have you  
25 exchanged that with counsel?

1 MS. MOORE: Yes, Your Honor.

2 THE COURT: Any objections to those  
3 demonstratives?

4 MR. DE VRIES: No, Your Honor.

5 THE COURT: All right. They will be  
6 marked as demonstratives, as shown on the list, and that  
7 will be Demonstrative Exhibit List No. --

8 COURTROOM DEPUTY: 9.

9 THE COURT: -- 9.

10 MS. MOORE: The last thing, Your Honor, I  
11 have photographs of all the demonstrative boards that  
12 were used during trial with Plaintiffs' demonstrative  
13 exhibit numbers just for the ease of the Court.

14 THE COURT: All right. Are those  
15 included on the list that you had?

16 MS. MOORE: Yes, Your Honor.

17 THE COURT: All right. Those will be  
18 included with the demonstratives.

19 All right. Do Defendants have an exhibit  
20 list they wish to offer?

21 MR. DAUCHOT: We do, Your Honor.

22 Defendants have Defendants' Admitted  
23 Trial Exhibit List.

24 THE COURT: All right. It will be marked  
25 as Defendants' Exhibit List No. 8.

1                   Is there any objection to the exhibits  
2 contained thereon? Is there any objection, Counsel?

3                   MS. MOORE: No, Your Honor.

4                   THE COURT: Be admitted.

5                   All right. Anything further?

6                   MR. DE VRIES: Yes, Your Honor. We have  
7 two lists of admitted demonstrative exhibits. We have  
8 Defendants' List of Admitted Demonstrative Exhibits.

9 That's the same list from earlier today.

10                  We also have a supplemental list that  
11 includes the demonstratives that were used during the  
12 bench trial. That's Defendants' List of Admitted  
13 Demonstrative Exhibits, June 12th, 2013, Bench Trial.

14                  THE COURT: All right. Those will be  
15 marked as Defendants' Exhibit Lists 9 and 10  
16 respectively, and the demonstratives are so marked.

17                  Okay. Anything further?

18                  MR. DE VRIES: And I would just note for  
19 the record, Your Honor, we handed up a pre-admit list at  
20 the beginning of the bench trial. I believe that that  
21 list is reflected on the admitted trial list that I'm  
22 about to hand up.

23                  With Your Honor's permission, I would  
24 like the opportunity, if I'm incorrect about that, to  
25 submit a supplemental that does include that.

1                   THE COURT: All right. When would you  
2 know that?

3                   MR. DE VRIES: Probably in about five  
4 minutes.

5                   THE COURT: All right. As long as you  
6 get it in by 7:00 o'clock, it will be received unless  
7 there's some objection. If there is an objection, let  
8 me know, and I'll come back in.

9                   Anything further?

10                  MR. DE VRIES: No, Your Honor.

11                  THE COURT: Anything further from the  
12 Plaintiff?

13                  MR. CAMPBELL: Your Honor, there were  
14 some exhibits that I rattled off too quickly today for  
15 the bench trial that weren't on our bench trial  
16 pre-admit list.

17                  THE COURT: Uh-huh.

18                  MR. CAMPBELL: Do we need to make a list  
19 to get those in?

20                  THE COURT: I admitted those, didn't I?

21                  MR. CAMPBELL: You did.

22                  THE COURT: Okay. Just give us an  
23 updated list tomorrow of all of them, including those,  
24 just so we'll have it for the record, if you would.

25                  And Defendants can do likewise, if you

1 have any in that category.

2 All right. Anything else before we  
3 adjourn for the evening?

4 MR. CAMPBELL: No, Your Honor.

5 THE COURT: All right. We are way past  
6 the cocktail hour, and we will be adjourned until  
7 tomorrow.

8 COURT SECURITY OFFICER: All rise.

9 THE COURT: Oh, let me give the parties  
10 their final times. It's amazing how this comes out.

11 Plaintiffs have used 15 hours and 1  
12 minute, and Defendants have used 15 hours and 2 minutes.

13 So congratulations.

14 (Court adjourned.)

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1 CERTIFICATION

2

3 I HEREBY CERTIFY that the foregoing is a  
4 true and correct transcript from the stenographic notes  
5 of the proceedings in the above-entitled matter to the  
6 best of our abilities.

7

8

9 /s/ Shea Sloan  
10 SHEA SLOAN, CSR  
Official Court Reporter  
State of Texas No.: 3081  
11 Expiration Date: 12/31/14

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15 /s/ Judith Werlinger  
16 JUDITH WERLINGER, CSR  
Deputy Official Court Reporter  
17 State of Texas No.: 731  
Expiration Date 12/31/14

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